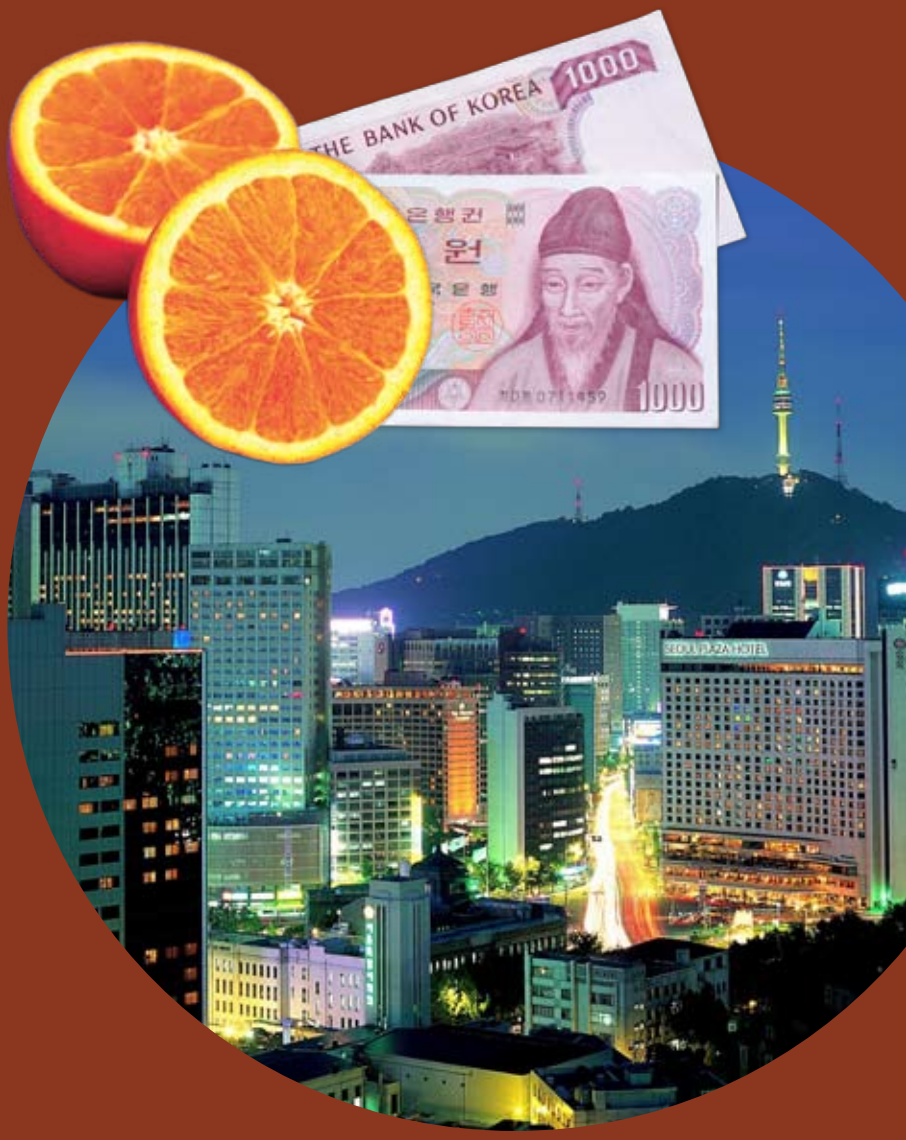
United States « » South Korea

Free Trade Agreement

What it would mean for California Agriculture



California Farm Bureau Federation

executive summary

THE PROSPECTIVE FREE TRADE AGREEMENT WITH KOREA: BACKGROUND, ANALYSIS AND PERSPECTIVE FOR CALIFORNIA AGRICULTURE

The Korean economy, comprised of almost 50 million consumers, has been growing rapidly for decades and is now placed among the developed economies, with per capita income above those of many European countries and nearing that of Spain. As a relatively large and relatively high-income country with a well-developed food and fiber distribution system, Korea is a major market for agricultural goods of the type produced in California.

As the country has become more developed overall, Korean agriculture has increasingly been losing competitiveness. Korea is now an urban country with relatively little arable land per capita. Because per capita income is high by world standards, Korea's many small farms have relied on high domestic commodity prices to maintain farm incomes comparable to the rapidly improving urban incomes. Nonetheless, farm population is aging rapidly and agriculture as a share of the population and the economy has been declining rapidly.

Despite high import tariffs, tight import quota quantities and restrictive sanitary and phytosanitary regulations, South Korea has become a major agricultural importer, with imported products comprising an increasing share of the food consumption expenditures. Korea is an important export destination for many products and ranks among the top five export destinations for California agriculture, overall. With lower import barriers that would accompany a Korea -United States Free Trade Agreement, there is a significant potential for expanding California agricultural exports to Korea.

The intensive negotiations for a Korea United States Free Trade Agreement (KORUS-FTA) were launched in Washington DC in the Spring of 2006. The negotiations are slated for completion by March 2007. Agriculture is at the center of these negotiations. So far, Korea has resisted rapid and complete opening of agricultural markets while the United States has urged the importance of comprehensive free trade in agriculture as soon as possible. There is a clear and traditional economic basis for these positions. They follow from typical pressures on governments to protect weak industries from imports and to support strong exporters. Korean agriculture has no potential to expand its tiny agricultural exports to the United States, and U.S. and California agriculture would expand exports to Korea substantially under free trade. Some of that increase in exports from California would derive from trade diversion from other exporters, such as Chile, Australia, New Zealand and China, and some would derive from expansion of total exports to Korea.

In order to better understand the negotiations and likely outcomes, we outline major characteristics and concerns within Korean agriculture and show where Korean agriculture is most vulnerable to expanded imports that affect Korean producers negatively. We also point out significant gains to Korean food buyers. By analyzing impacts among Korean farmers and consumers, we can improve understanding the Korean negotiating position and anticipate the pace of market opening across commodities.

This study provides detailed information and analysis of the potential effects of a KORUS-FTA for California agriculture on a commodity-by-commodity basis. This will help California agriculture better appreciate and communicate what is at stake for California commodities. The analysis will also help California agriculture prepare for the realistic impacts of the potential market opening.

The report catalogs current agricultural exports to Korea from California on a commodity-by-commodity basis. It also reviews the current trade barriers that limit exports to Korea, considers explicitly the export positions of major competitors and examines the size of the Korean market for each commodity. The study assesses the degree to which agricultural exports to Korea have been constrained by trade barriers and the potential additional exports that the Korean market can absorb. For dairy products and rice, we show results of simple simulations using supply and demand functions and for other commodities we provide detailed market analysis.

We find that better access to the Korean market would create significant opportunities for dozens of major commodities. California has the potential to more than double the current exports of about 280 million within a few years, and to continue expanding exports as barriers fall slowly for certain sensitive products. Lower tariffs and fewer other barriers would allow important export expansion for citrus products, tree nuts, dairy products, beef, grapes and grape products, stone fruits, strawberries, fresh and processed vegetables, flowers and ornamental horticulture, processed tomato products, olives, hides and skins, cotton, hay and rice.

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introduction

THE PROSPECTIVE FREE TRADE AGREEMENT WITH KOREA: BACKGROUND, ANALYSIS AND PERSPECTIVES FOR CALIFORNIA AGRICULTURE

Several factors underscore the significance for California agriculture of comprehensive and rapid free trade with South Korea[1]. First, California agriculture is a major supplier of many fruit, vegetable and tree nut products. It is also a large supplier of hay, rice and cotton as well as beef and dairy products. Second, exports generally account for about 20 percent of the market value of California agricultural production and are important for the economic success of many commodities. Third, Korea has a large and well-developed consumer base for California agricultural products. Korea has long been an important market for California agriculture even as the leading export commodities have changed over time. Fourth, Korea has large trade barriers for many of the products supplied by California agriculture. The potential for expanded imports from California is large. Fifth, Korea has little or no potential to increase exports of agricultural products to the United States. Korean domestic prices are high and very few Korean agricultural products could not compete successfully in the U.S. market.

This rest of this report builds on these general points to consider more specifically the basis for these broad conclusions. We provide general background and time schedule for the negotiations, provide information on overall bilateral trade relations and summarize the nature of the Korean economy, especially in agriculture. We then describe the trade barriers currently in place for products important for California agriculture and discuss the impact of free trade for Korean agriculture and for California agriculture. We summarize impact on key commodities and commodity groups. Much of the report consists of a series of detailed tables and charts that show trade patterns and current Korean trade barriers. This information is provided to allow the reader to have ready access to trade data in a form that facilitates the consideration of export gains for California agriculture. The bottom line is that a KORUS-FTA would make U.S. products relatively cheaper in Korea and as a result the Korean market for U.S. products would expand. Further, the larger difference in tariffs on agricultural goods means that U.S. and California agriculture has substantial potential for gains from the KORUS-FTA in agricultural trade.

[1] In this report we will refer to Republic of Korea as South Korea or more often as simply Korea. North Korea is a separate country with a government that controls the economy tightly. The proposed free trade agreement is strictly bilateral and does not include North Korea.

free trade agreement negotiations

The United States and South Korea announced their intention to start negotiations leading to a free trade agreement (FTA) on February 2, 2006. Starting with negotiation sessions in Washington, DC and Seoul, follow-up meetings have been held in Seattle and Jeju Island in South Korea. The negotiations are now well underway, but are facing a short negotiation period, given the complexity of the trade relations between the two countries. The negotiations are scheduled for completion in March 2007 (Table 1).

In the United States, the Korea-U.S. FTA (KORUS-FTA) negotiations are being conducted as authorized under the Trade Promotion Authority (TPA) legislation. The TPA, which Congress granted to the President under the Bipartisan Trade Promotion Act of 2002, is scheduled to expire in July 1, 2007 (CRS).[2] The U.S. Congress must pass implementing legislation before any trade agreement can take effect. Such legislation is often delayed until well after an agreement is signed.

Under Trade Promotion Authority, Congress is not allowed to amend an agreement, but must either pass or reject an agreement as signed. Trade observers consider this provision a requirement for any trade negotiation to proceed. Trade partners would be unwilling to negotiate with the United States at all if, after an agreement was reached, the agreement could be unilaterally changed by the Congress. Negotiating partners understand that, if the President is not in a position to negotiate with authority to stick by the deals that are struck, then there is no reason for trading partners to enter negotiation at all.

Table 1. Time Line for the Negotiations

Declaration of intentions: Feb 2, 2006

Bilateral negotiations 2006

- 1st: June 4 - 6 (Washington, D.C.)
- 2nd: July 10 – 14 (Seoul, Korea)
  - Exchange of draft concession schedule
- 3rd: September 4 – 6 (Seattle,)
- 4th: October 23 – 26 (Jeju, Korea)

Additional sessions through January 2007

Completed proposed agreement submitted to legislatures in each country

Notification submitted to U.S. Congress by April 2, 2007

Trade negotiation authority expires and agreement must be signed by July 1, 2007

Besides the WTO negotiations in the Doha round, the United States used TPA to engage in free trade initiatives in the Western Hemisphere, East Asia, Oceania, the Middle East, North Africa, and southern Africa. The United State has completed Free Trade Agreements with Canada, Mexico, Singapore, Central America (CAFTA)-5, Israel, Australia, Chile, Jordan, and Morocco, and has signed the FTA with Dominican Republic, Peru, Oman, and Bahrain (Schott et al. 2006).[3]

Korea has Free Trade Agreements with Chile (in force since April 1, 2004), Singapore (in force since March 2, 2006) and EFTA-4 (European Free Trade Association) (in force since September 2006). Korea has signed an FTA with the ASEAN-10 (Association of South East Asian Nations), and has negotiations under consideration with Japan, Canada, Mexico and India as well as the United States (Choi, Schott et al. 2006). [4] Korea is also considering FTAs with New Zealand and Australia, but these would only be initiated after the KORUS negotiations are completed (Choi).

Even though the United States and Korea have been political allies for many decades, they have a history of trade disputes since long before the World Trade Organization (WTO) entered into force in January 1995. Since 1995, they have filed 13 cases involving bilateral trade problems, seven cases filed by the United States and six by Korea. Six out of seven U.S. cases against Korea have involved problems with non-tariff agricultural protectionism (Schott et al. 2006).

Under a simple definition, an FTA is a pact between or among two or more countries under which tariffs and similar non-tariff border restrictions are eliminated among the parties to the agreement. However, the final shape and content of the KORUS-

[2] The TPA requires a 90 day presidential notification to Congress of intent to sign the agreement. Therefore, the KORUS-FTA would have to be completed before April 2, 2007 (CRS).

[3] CAFTA-5 includes Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua.

[4] EFTA-4 includes Iceland, Liechtenstein, Norway, and Switzerland, and ASEAN-10 includes Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. However, Thailand is excluded from the FTA agreement.

FTA, if achieved, is expected to include provisions for additional controversial areas (CRS). Previous FTAs may provide some guidance toward what to expect in the final content of KORUS-FTA. The Korean FTA with the ASEAN-10, signed in May 2006, excluded a number of agricultural items including rice. (Thailand, a major rice exporter, did not join in the agreement.) It also includes the schedules for phase-out of tariffs and non-tariff barriers. Further, the previous Korean FTAs granted a preferential status (consistent with the rest of South Korea) of the Kaesong Industrial Complex (KIC), which houses South Korean companies near the North Korean city of Kaesong. The Korean government has requested products from the KIC to receive similar status under the KORUS-FTA. This is a potentially contentious issue in the FTA talks as the position of United States is that the FTA would cover only products made in South Korea (CRS). Previous FTAs signed by the United States included provisions for services, intellectual property, dispute resolution and related topics, as well as tariff reductions.

U.S. – Korea trade relations

For manufactured goods, South Korea's average applied tariff is 11.2 percent, and the average U.S. applied tariff is 3.7 percent. Korea and the United States are very important trade partners. In 2005, merchandise exports from the United States to Korea totaled $26.2 billion with $2.1 billion in agricultural exports. U.S. exports to Korea have declined since 1995. Exports collapsed by one third with the Asian financial crisis in 1998 from about $24 billion to about $16 billion. Exports rebounded in 1999 and 2000 before sliding again in 2001. From 2002 to 2005 exports gradually climbed back to the pre-crisis totals (Table 2). U.S. agricultural exports to Korea have bounced between about 12 to 13 percent of the total Korean agricultural import market in 1995 and 1996 to a low of 8.6 percent in 2000. With the BSE beef crisis in December 2003, agricultural exports declined to 8.0 percent of total exports in 2005. The 2005 total is the lowest since the financial crisis year of 1998 (Table 2).

Table 2: U.S. Trade with Korea, 1995-2005 (in $million

Product	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
U.S. exports to Korea											
Agriculture	2,946	3,231	2,304	1,764	2,262	2,253	2,264	2,448	2,722	2,277	2,090
share of total, %	12.0	12.7	9.5	11.0	10.3	8.6	10.8	11.6	12.1	9.1	8.0
Total Export	24,480	25,430	24,287	15,979	22,038	26,302	20,900	21,151	22,525	24,994	26,210
U.S. imports from Korea											
Agriculture	176	176	184	154	180	202	220	245	261	290	325
share of total, %	0.7	0.8	0.8	0.7	0.6	0.5	0.6	0.7	0.7	0.6	0.8
Total Import	24,030	22,530	22,875	23,631	31,112	39,787	34,883	35,263	36,889	45,021	43,095
U.S. trade volume with Korea (exports plus imports)											
Agriculture	3,122	3,407	2,488	1,918	2,442	2,455	2,484	2,693	2,983	2,567	2,415
Share of total, %	6.4	7.1	5.3	4.8	4.6	3.7	4.5	4.8	5.0	3.7	3.5
Total merchandise	48,510	47,960	47,162	39,610	53,150	66,089	55,783	56,414	59,414	70,015	69,305
U.S. trade balance with Korea (exports minus imports)											
Agriculture	2,770	3,055	2,120	1,610	2,082	2,051	2,044	2,203	2,461	1,987	1,765
Total merchandise	450	2,900	1,412	-7,652	-9,074	-13,485	-13,983	-14,112	-14,364	-20,027	-16,885

U.S. merchandise imports from Korea totaled $43.2 billion, with almost all in manufactured goods ($0.3 billion of agricultural goods) (USITC). Korean exports to the United States have grown substantially in recent years. In 1995, imports from Korea were about $24 billion, slightly less than exports to Korea. After being flat for several years, imports from Korea have grown substantially since 1998 and now exceed exports by 65 percent (Table 2).

The United States is Korea's second largest merchandise export market (following China). The U.S. share of Korean exports was around 20 percent from 1995 through 2002 before falling gradually to only 14.5 percent by 2005 (Table 3). China has replaced the United States as the major destination of exports from Korea. Major Korean exports to the United States include cellular phones, cars, semiconductor circuits, televisions, flat panel screens, and construction vehicles (USITC).

Table 3: Korea's Major Trading Partners, 1995 – 2005 (in percent)

Country	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Exports to											
U.S.	19.3	16.7	15.9	17.3	20.6	21.9	20.8	20.2	17.7	16.9	**14.5**
Japan	13.6	12.1	10.9	9.3	11.1	11.9	11	9.3	8.9	8.5	8.4
China	7.3	8.8	10	9	9.6	10.7	12.1	14.7	18.1	19.6	**21.8**
China+HK	15.9	17.3	18.6	16.1	15.9	17	18.4	20.9	25.7	26.7	27.2
Imports from											
U.S.	22.5	22.2	20.8	21.9	20.8	18.3	15.9	15.1	13.9	12.8	**11.7**
Japan	24.2	21	19.2	18	20.1	19.9	18.9	19.6	20.3	20.6	18.5
China	5.5	5.7	7	6.9	7.4	8	9.4	11.4	12.3	13.2	**14.8**
China+HK	6.1	6.5	7.6	7.5	8.1	8.8	10.3	12.6	13.8	14.6	15.6

The United States is Korea's third largest source of merchandise imports (following Japan and China). For most of the past decade, Japan and the United States traded positions as the top source of imports into Korea, but U.S. exports to Korea have declined relative to China, which is now in the second position. Major export items from the United States to Korea include semiconductor chips, manufacturing equipment, aircraft and agricultural goods.

For the United States, Korea is the seventh largest export market and the seventh largest source of imports.

Korean government economists have estimated that an FTA would create higher national income in Korea by about 2 percent, even if only the direct effects of lower import barriers and additional exports are considered. Using more dynamic models, which include the effects on economic growth and stimulation of investment and innovation, the estimates of income improvement from free trade with the United States rises to 7 percent. Both of these estimates indicate that billions of dollars of additional economic activity are available to the Korean economy.

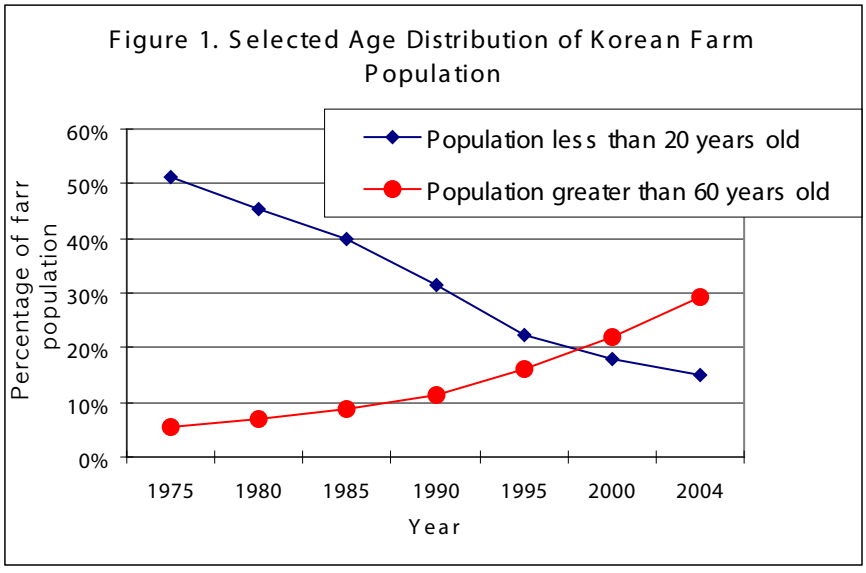
changes in korean society, economy and agriculture

Korea has experienced phenomenal change in the last half century. It has gone from an extremely poor agrarian economy using 19th century technology at best, to a wealthy modern society at the cutting edge of applied science and with some of the world's most advanced technological firms dominating the economic landscape. In two generations, Korea went through changes that took 100 years or more in the United States and Europe. As GDP doubled, and then doubled again and again, annual income went from only a few hundred dollars per capita to more than $21,000 per capita now. Meanwhile, manufacturing and services expanded and the share of agriculture in the economy declined from about 30 percent in 1970 to just over 3 percent now.

The changes in eating patterns in Korea were equally rapid. As recently as 1982, about 32 percent of monthly food expenditures was spent on cereal (mostly rice) consumed at home. By 2005, that share had fallen to just six percent. Consumption of all other products at home, except processed products, has also fallen somewhat, while food consumed away from home has jumped from just six percent of monthly expenditure to about 46 percent (Choi). The huge shift in expenditures on food away from home also indicates the nature of Korean society where most people live in urban area apartments. They spend long hours away from home at school, work, commuting and at other activities. Of course, much of the food expenditures away from home are for food preparation and related services that are not included in food costs for home consumption. The same issues are reflected in U.S. data where expenditures away from home have risen rapidly in recent decades.

The rapid change (and Westernization) in the Korean diet may also be gleaned from the changing nutrient consumption. In 1980, fully 75 percent of the Korean calorie intake came from carbohydrates, with 12 percent from protein and 13 percent from fat. By 2004, the carbohydrate intake had fallen to 61 percent of calories, and fat had risen to 26 percent. (For comparison, Americans get 47 percent of their calorie intake from carbohydrates and 37 percent from fat.) The increased fat intake has been driven by increased consumption of meat and dairy products and the greater role of processed snacks and other processed foods in the diet. It also reflects the different composition of food consumed away from home.

In the context of this economic and social revolution, agriculture has changed but has not been transformed to the degree that industrial and service economies have been. Under tight protection from imports, rice continued and even expanded as the dominant crop, with 37 percent of acreage devoted to rice in 1970 and about 50 percent now. Horticultural production has expanded substantially, while barley and potato acreage has declined. Since 1970, fruit area expanded from about two percent to eight percent of arable land, and greenhouse production grew from almost nothing to two percent of the arable land (Choi). The dairy and beef industries have expanded to meet part of the increased domestic demand. Farm size has grown slowly in Korea, but remains far below the average dairy and beef farm sizes in other industrial economies, except Japan. Korean agriculture has been like Japanese agriculture in another characteristic as well; protection from imports has kept much of agriculture insulated from competitive pressures from abroad; helped maintain rice as the



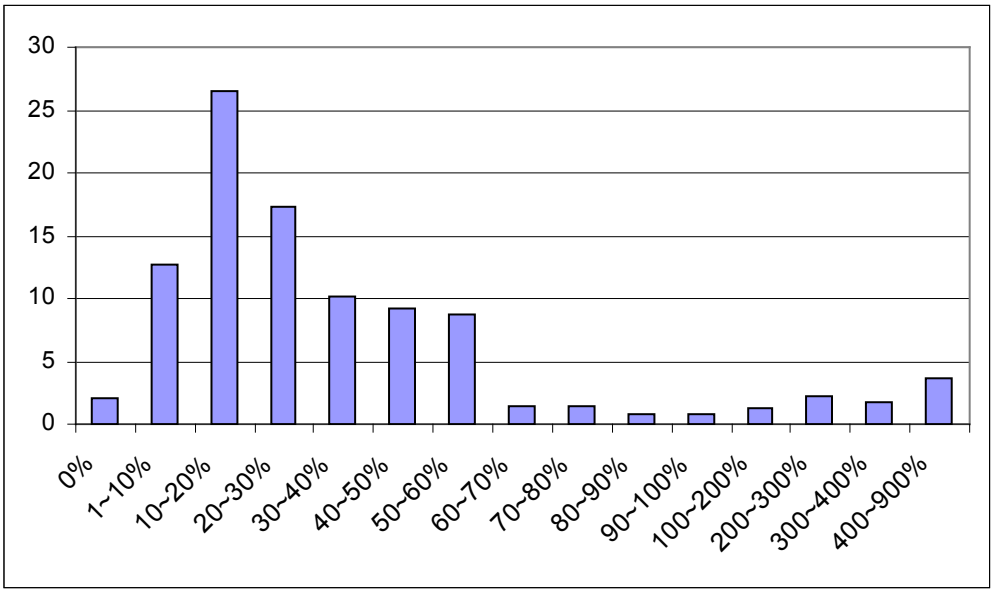
dominant crop and used high prices rather than farm size increases as the mechanism to maintain farm incomes relative to non-farm incomes.

Per capita farm income in Korea grew along with the national average until the last decade. Since the early 1990s per capita income of the farm population went from rough parity with the non-farm population to about 80 percent of the non-farm incomes now (Choi). At the same time a demographic transformation has occurred in the age pattern of the farm population. In 1970, more than 50 percent of the farm population was less than 20 years of age and only about 5 percent of the population was over 65. In 2004, about 30 percent was over 65 and only about 15 percent was under 20 (Figure 1). This huge and rapid shift means that there are few young families with children left among farm families. There will be a huge turnover among farmers in the next few years, and given the lack of successors available, farm consolidation is inevitable.

korean agricultural tariffs

The average agricultural tariff in Korea is 62 percent (Choi). Of all Korea's agricultural tariffs, only about two percent are zero and only about fifteen percent of tariffs are below 10 percent (Figure 2). At the other end of the spectrum, about 10 percent of the tariffs are over 100 percent and about four percent of the tariffs are over 400 percent. A majority of the tariffs, more than 80 percent of all tariff lines fall between 11 percent and 60 percent (Figure 2). For comparison, recall that the average agricultural tariff applied by the United States is 12 percent with many tariff lines set at zero.

Figure 2: Percentage Share of Korea Agricultural Tariff Lines by Tariff Rate Bracket



Source: Choi

Many Korean tariffs for important agricultural products are high. The sesame tariff is 630 percent, the pepper tariff is 270 percent and the garlic tariff is 360 percent. All these products are important for preparation of Korean specialty foods and these industries face potential competition, especially from China. Tariffs for meat products, although still very high by international standards, are much lower. The tariff for beef is 40 percent and the tariff for chicken is 18 percent (Choi).

Appendix Table A1 shows tariff rates by detailed tariff line for imports of agricultural products. In many cases, potential imports from California agriculture face tariffs of more than 30 percent. There are a number of such cases, such as beef, tree nuts and others, where significant exports are able to penetrate the Korean market despite high tariffs. The pattern of California agricultural exports and the potential for expansion on a commodity basis will be discussed in more detail next.

simulated impacts on korean agriculture

The Korean Rural Economic Institute has estimated that a Free Trade Agreement with the United States would reduce the value of agricultural output in Korea by between 1.9 percent and about 3.7 percent. Their analysis uses three scenarios, but in each case they assume that rice will be excluded from any further import access beyond that to which Korea has already committed in the WTO agreements. Scenario I presumes that all import barriers, except those for rice, are completely removed. Scenario II and scenario III assume that tariffs are removed completely for some agricultural products but for "sensitive products" tariffs are only reduced, not eliminated. In scenario II, tariffs fall by 80 percent for "sensitive products" and in scenario III tariffs for "sensitive products" fall by 50 percent. In these scenarios, "sensitive products" include most agricultural commodities of interest to California, such as beef and dairy products, fruits, tree nuts and vegetables. In this analysis, the biggest impacts in Korean agriculture are in (the already very small) grains and oilseeds commodity groups and in livestock products other than dairy. In fruits, vegetables, and dairy and processed foods, the impact of free trade on Korean value of production is between about 3 percent and 4 percent (Table 4). The Korean analysis used a model that works with relatively aggregate commodity groups and this aggregation may mask some important impacts.

Given the moderate magnitudes of these losses, the small share of agriculture in the Korean economy and the significant economy-wide gains from KORUS-FTA, Korea could more than offset losses to vulnerable farm families and landowners. A policy of adjustment assistance for transitions out of agriculture (and into retirement for many former farmers) may accompany the KORUS-FTA. Assistance would facilitate farm consolidation and respond to expected declines in land values. In fact, some transition policy for Korean agriculture may be a requirement of completing a comprehensive FTA in Korea.

Table 4. Effects of KORUS-FTA on Agricultural Production, Change in Korean Agricultural Production Value, in $million and percent

Commodity Group	Base	Scenario I		Scenario II		Scenario III	
		Value	%	Value	%	Value	%
Rice	14,086	-211	-1.5	-179	-1.3	-107	-0.8
Other Grains	250	-47	-18.6	-24	-9.8	-8	-3.3
Fruits & Vegetables	8,847	-255	-2.9	-201	-2.3	-120	-1.4
Oilseeds	178	-88	-49.6	-50	-28.0	-14	-8.1
Other crops	2,128	-179	-8.4	-187	-8.8	-196	-9.2
Livestock products	6,217	-903	-14.5	-653	-10.5	-338	-5.4
Dairy products	3,122	-111	-3.6	-62	-2.0	-14	-0.5
Processed foods	19,058	-384	-2.0	-358	-1.9	-288	-1.5
Beverage & tobacco	8,328	-105	-1.3	-84	-1.0	-69	-0.8
Total	62,215	-2,283	-3.7	-1,800	-3.2	-1,155	-1.9

Source: Choi
Scenario I: Elimination of all barriers except rice. Scenario II: As Scenario I, except 80 % reduction of "sensitive product" tariffs. Scenario III: As Scenario I, except 50 % reduction of "sensitive products" tariffs, except rice. "Sensitive products" include fruits, vegetables, tree nuts, livestock products and dairy products.

california export patterns and export potential

Table 5 presents University of California Agricultural Issues Center estimates of the recent California agricultural exports to Korea. After growing by more than $100 million or about 75 percent from 1999 to 2003, exports had declined by 2005 back to the level it had reached in 2001. For illustration of the trends in California agricultural exports to Korea, see the series of panels by commodity in figure 3, which continues for several pages.

Table 5. Exports of California Agricultural Products to Korea, 1999 -2005

				Value $ 000'			
Commodity	1999[1]	2000[1]	2001	2002	2003	2004	2005[p]
Oranges, fresh[2]	14,512	41,000	51,152	70,877	81,101	88,846	96,670
Almonds	11,326	11,000	13,903	17,409	21,382	25,781	34,608
Cotton	69,656	88,000	99,969	37,626	29,328	28,034	33,214
Walnuts		4,000	4,566	6,712	7,434	13,890	17,522
Hay	4,189	13,000	14,961	17,600	17,745	17,120	14,282
Hides & Skins[3]			17,167	16,390	18,721	15,113	13,878
Tomatoes (processed)	9,276	8,000	9,710	11,364	10,938	11,387	12,300
Wine	2,358	3,000	4,915	3,347	5,927	6,992	9,535
Grapefruit (incl. juice)			1,004	2,028	4,001	5,107	8,914
Rice			3,988	10,979	25,340	17,447	6,619
Grape Juice	6,115	3,000	6,348	7,878	8,169	5,180	5,249
Dairy and Products	12,096	28,000	16,816	17,938	11,419	4,200	6,279
Raisins	2,444		2,568	2,669	2,631	3,653	4,159
Table Grapes			451	0	2,202	2,273	2,955
Lemons			2,443	3,398	2,542	2,749	2,950
Orange Juice			3,295	3,779	2,976	2,955	2,392
Cherries			352	9	1,439	1,459	1,180
Pistachios			587	475	434	532	914
Kiwi fruit			57	0	1,438	1,924	859
Lettuce			51	45	420	649	777
Flowers			704	187	308	112	437
Olives			9	161	382	834	382
Beef (and products)[3]	37,795	51,000	21,022	39,781	52,956	114	243
Total CA Export to Korea	178,000	262,000	279,415	274,000	312,010	259,000	278,556

[1] Data provided for commodities with exports of more than $2 million in 1999 and 2000.
[2] Includes fresh oranges and orange juice from 1999 and 2000.
[3] Included in beef and products for 1999 and 2000.
[4] Includes beef and hides and skins from 1999 and 2000.
[p] Preliminary figures
Source: U.C. Agricultural Issues Center, Annual California International Agricultural Export estimates, 2001-2005.

In recent years, fresh oranges have replaced cotton and beef (which collapsed in 2004 with the BSE outbreak) as the leading export from California to the Korean market. Tree nuts, especially almonds and walnuts, are also major exports to Korea. Hay, hides and skins, processed tomato products, wine, grapefruit and rice round out the top ten exports to Korea. Dairy products declined substantially starting in 2003, but remain a major export category and continue to have significant potential to expand even past the levels that were reached a few years ago.

Table 6 arranges the California export data to indicate the importance of the Korean market to California agricultural export products. Korea is the top export market for California oranges (measured by share of export value) and the number two export market for California grapefruit, grape juice, hay and hides and skins. Korea was the number two export market for California beef before the collapse of exports in 2004. Korea accounted for 34 percent of California beef exports in 2003. Korea holds double-digit shares of exports for all these products plus kiwifruit, for which it is the fourth most important market. For a large group of commodities listed in Table 6, Korea is a top-10 export market and accounts for a significant share of exports.

Table 6. Value Share of California Exports Shipped to Korea and Rank of Korea in Export Destinations, Major California Agricultural Products, 2003 – 2005

	2003		2004		2005	
Commodity	Share	Rank	Share	Rank	Share	Rank
Almonds	2%	7	2%	8	2%	7
Beef	34%	2	-	-	-	-
Cherries	2%	7	2%	6	3%	6
Cotton	4%	8	4%	9	5%	9
Grapefruit	8%	3	12%	3	18%	2
Grape Juice	27%	2	17%	2	13%	2
Hay	17%	2	16%	2	13%	2
Hides & Skins	32%	1	27%	2	26%	2
Kiwifruit	16%	3	18%	4	10%	4
Oranges	25%	1	27%	2	27%	1
Olives	3%	7	5%	6	2%	5
Raisins	2%	11	2%	11	2%	11
Rice	12%	3	6%	4	2%	7
Table Grapes	1%	19	1%	18	1%	19
Tomatoes, Processed	5%	5	5%	5	5%	4
Walnuts	3%	5	6%	4	6%	5
Wine	1%	6	1%	6	1%	6

Source: UC Agricultural Issues Center Agricultural Export Database: http://aic.ucdavis.edu/pub/exports.html

Table 7 and Table 8 use Korean import data to examine the role of the United States as an import supplier to Korea for major items of potential importance to California. Table 7 includes data on imports from Chile because some of the exports from California compete with Chilean exports and Chile has the advantage of an FTA with Korea. This table shows that U.S. exports command a major share of all exports into Korea for a number of commodities, including oranges, lemons, grape juice, processed tomato products, raisins, grapefruit, lettuce, almonds, walnuts, pistachios, hides and skins, whey, cotton, hay and flowers. Chile is the main export supplier of table grapes to Korea (which are available in the off-season relative to both Korean and Californian grapes) and a significant supplier of kiwis and wine.

Table 7. Total Korean Imports and Imports from the United States and Chile, by commodity, 2005

	Total(A)	USA(B)	Chile(C)	B/A	C/A
Unit	$1,000	$1,000	$1,000	%	%
Oranges (fresh)[1]	120,377	115,006	-	96%	0%
Oranges (juice)	42,058	10,651	-	25%	0%
Lemons	6,691	5,042	609	75%	9%
Table grapes	23,616	4,434	19,158	19%	81%
Grapes (juice)	23,829	10,176	784	43%	3%
Cherries	13,154	10,571	-	80%	0%
Strawberries	5,128	1,584	71	31%	1%
Tomatoes (processed)	29,800	13,730	1,073	46%	4%
Raisins	5,206	4,795	-	92%	0%
Olives	116,654	796	51	1%	0%
Kiwis	53,313	2,619	7,996	5%	15%
Grapefruits	3,970	2,336	-	59%	0%
Peaches (processed)	6,365	83	0	1%	0%
Peaches (juice)	1,817	1,456	0	80%	0%
Pears (fresh)	111	73	0	66%	0%
Pears (processed)	403	55	0	14%	0%
Prunes (dried)	595	595	0	100%	0%
Lettuce	1,020	740	-	73%	0%
Garlic	21,244	34	-	0%	0%
Almonds	34,938	34,932	-	100%	0%
Walnuts	19,152	16,596	-	87%	0%
Pistachios	2,531	1,727	-	68%	0%
Beef	735,143	3,996	-	1%	0%
Hides and skins	407,524	360,274	-	88%	0%
Rice	51,369	14,152	-	28%	0%
Wine	83,877	9,662	11,885	12%	14%
Cotton	355,352	171,933	-	48%	0%
Hay	142,408	112,646	-	79%	0%
Flowers	49,767	1,149	602	2%	1%
Dairy products Total	320,070	58,778	122	18%	0%
Skim milk powder	14,568	4	-	0%	0%
Whole milk powder	4,342	-	-	0%	0%
Butter	12,807	65	-	1%	0%
Whey	32,786	19,905	-	61%	0%
Cheese	143,572	25,491	-	18%	0%
Formulated butter	47,751	36	-	0%	0%
Mixed milk powder	72,656	5,064	122	7%	0%
Infant formula	23,027	2,640	-	11%	0%
Casein	44,641	66	-	0%	0%

Source: All data are from Korea Agricultural Trade Information (http://www.kati.net) except cotton and hides and skins that are from Korea Customs Service (http://www.customs.go.kr).

1/ Mandarins and other citrus fruits (other than grapefruit) have import values of less than $1 million.

Table 8 lists major competitors in the Korean market for each imported product. These include Brazil for orange juice (orange juice is a minor product for the California orange industry and is shipped to Korea mainly from Florida). Chile is the major competitor for table grapes and wine (next to France). China is the major competitor for strawberries, processed tomato products, lettuce, garlic, red peppers, rice and flowers. Spain is the main competitor for grape juice and olives. New Zealand is a major competitor for kiwis, beef and dairy products, and Australia is the major competitor for beef, dairy products and cotton. Finally, Iran is the major competitor for pistachios and Vietnam is the competitor for the walnut market in Korea. A free trade agreement would either allow California suppliers to have a price advantage relative to other suppliers or allow California to keep up with other suppliers in their own current or prospective free trade agreements with Korea.

Table 8. Import Value Share of the United States and Major competitors in Korea

	Import value share of U.S.		Shares of competing countries
	2002	2005	2005(%)
Oranges (fresh)	97%	96%	
Oranges (juice)	26%	25%	Brazil(72)
Lemons	86%	75%	Chile(9),Italy(7)
Table grapes	17%	19%	Chile(81)
Grapes (juice)	75%	43%	Spain(36)
Cherries	92%	80%	
Strawberries	29%	31%	China(50) Italy(9)
Tomatoes (Processed)	47%	46%	China(25) Italy(12)
Raisins	94%	92%	
Olives	3%	1%	Spain(76) Italy(14)
Apples	20%	0%	China(50) Chile(2)
Pineapples	2%	1%	Philippines(86)
Bananas	0%	0%	Philippines(100)
Kiwi	3%	5%	New Zealand(80) Chile(15)
Grapefruits	57%	59%	Japan(26)
Peaches (processed)	0%	1%	South Africa(32), Greece(28), China(22)
Peaches (juice)	86%	80%	China(16)
Pears (fresh)	0%	66%	Canada(34)
Pears (processed)	5%	14%	China(35), Spain(23), South Africa(22)
Prunes (dried)	100%	100%	
Lettuce	30%	73%	China(22)
Garlic	0%	0%	China(100)
Red peppers	1%	0%	China(96)
Almonds	98%	100%	
Walnuts	95%	87%	Vietnam(13)
Pistachios	98%	68%	Iran(32)
Beef(meat)	69%	1%	Australia(73), New Zealand(24)
Hides and skins	88%	88%	
Rice	39%	28%	China(65) Thailand(7)
Wine	9%	12%	France(37) Chile(18)
Cotton	31%	48%	Australia(24)
Hay	78%	79%	
Flowers	1%	2%	China(25) Taiwan(24) Netherlands(18)
Dairy products (total)	19%	18%	New Zealand(22) Australia(20)
Skim milk powder	0%	0%	Australia(61) New Zealand(19)
Whole milk powder	0%	0%	Australia(85) New Zealand(6)
Butter	6%	1%	Australia(60) New Zealand(29)
Whey	39%	61%	France(9) Australia(9)
Cheese	17%	18%	New Zealand(27) Australia(22)
Formulated butter	0%	0%	Belgium(32) Australia(28) New Zealand(17) Netherlands(17)
Mixed milk powder	2%	7%	Netherlands(29) Canada(18) France(10)
Infant formula	35%	11%	New Zealand(67)
Casein	1%	0%	New Zealand(49) France(17)

Source: Korea Agricultural Trade Information http://www.kati.net

Table 9 shows imports relative to Korean production for each commodity. The first major point illustrated by Table 9 is that for many products there is no production of those commodities in Korea. Despite having no domestic industry to protect from directly competitive imports, Korea continues to maintain high tariffs, often more than 30 percent. High tariffs, when there is no domestic industry, apply to lemons, grape juice, cherries, processed tomato products, raisins, olives, pineapples, bananas, kiwis, grapefruit, almonds, walnuts, pistachios and wine. For other products import tariffs are also high, about 45 percent in most cases, and given the sizable domestic production, imports quantities remain very small relative to domestic supplies. This is the case for table grapes, strawberries, apples, lettuce and rice. For only a few products, such as oranges, beef, some dairy products and hay, imports are significant when large quantities of domestic production are also available. In those cases, imports are able to compete with domestic supplies despite sizable tariffs because costs of production in the domestic industry are high. Finally, fresh peaches and pears deserve attention. Table 9 indicates that Korea has a sizable fresh peach and pear market, but almost no imports enter the country.

TABLE 9. AGRICULTURAL IMPORTS BY COMMODITY COMPARED TO PRODUCTION IN KOREA, 2005

	Imports (tons)	Production (tons)
Fruits and vegetables		
Oranges (fresh)	123,048	563,000
Oranges (juice)	38,446	
Lemons	5,171	
Table grapes	13,353	381,436
Grapes (juice)	16,625	
Cherries	2,845	
Strawberries	4,585	201,995
Tomatoes (processed)	39,850	
Raisins	3,208	
Olives	30,701	
Apples	6,624	367,517
Pineapples	65,678	
Bananas	253,974	
Kiwis	26,751	
Grapefruits	2,045	
Peaches (fresh)	0	223,701
Peaches (processed)	7,196	
Peaches (juice)	894	
Pears (fresh)	44	443,265
Pears (processed)	437	
Plums (fresh)	0	75,963
Prunes (dried)	171	
Lettuce	1,262	204,786
Garlic	42,152	374,980
Red peppers	83,137	395,293

TABLE 9. AGRICULTURAL IMPORTS BY COMMODITY COMPARED TO PRODUCTION IN KOREA, 2005 (CONTINUED)

Tree Nuts		
Almonds	5,011	
Walnuts	4,483	
Pistachios	473	
Livestock Products		
Beef	196,363	152,000
Hides and skins	181,017	
Dairy products		
Total	149,045	
Skim milk powder	6,147	26,319
Whole milk powder	1,743	6,007
Butter	5,047	5,210
Whey	40,319	
Cheese	44,032	22,637
Formulated butter	19,371	
Mixed milk powder	28,708	
Infant formula	3,179	18,251
Casein	6,089	
Others		
Rice	133,486	5,000,000
Wine	21,046	
Cotton	278,288	
Hay	700,996	3,432,000
Flowers	36,053	7,522 ha

Sources: Data are from Korea Agricultural Trade Information (http://www.kati.net), except cotton and hides and skins that are from Korea Customs Service (http://www.customs.go.kr).
The data used for the production of oranges (fresh), beef and rice are from Korea Rural Economic Institute (http://www.krei.re.kr).
The data for hay production is from Korea Dairy Committee (http://www.dairy.or.kr).
The data for the production of table grapes, strawberries, apples, garlic and red peppers are from National Agricultural Products Quality Management Service (http://www.naqs.go.kr).
The data for productions of lettuce and flowers are for year 2004 that is from the Annual Statistics of Agriculture and Forest (2005) published by the ministry of agriculture and forest of Korea. The data for production of dairy products such as skim milk powder, whole milk powder, butter, whey, cheese, infant formula are for year 2003 from the Dairy Year Book published by the ministry of agriculture and forest of Korea.

Table 10 shows tariff rate quota quantities (absolute quotas for rice) for each year since the beginning of implementation of the Uruguay round WTO agreement in 1995. We will discuss the dairy and rice quotas in later sections; here we only note that for oranges, imports far exceed the access available at the within quota tariff rate, and according to Korean, data all imports pay the duty of 50 percent.

Table 10. Korean Quota or Tariff Rate Quota and Actual Imports by Tariff Tier, Selected Products, 1995 -2004.

Product	Year	Minimum Market Access (tons)			Actual Imports by tariff rate (tons)			
		Initial		Total	Lower tariff	Higher tariff	Other	Total
Skim milk powder	'04	1,034	-	1,034	710	3,680	-	4,389
	'03	988	-	988	888	3,664	8	4,560
	'02	942	-	942	118	4,043	0	4,160
	'01	896	-	896	1,515	3,734	12	5,260
	'00	806	1,195	2,000	143	2,859	2	3,004
	'99	805	-	805	805	2,037	0	2,842
	'98	759	-	759	916	1,732	-	2,648
	'97	713	-	713	603	1,327	0	1,930
	'96	667	-	667	649	-	-	649
	'95	621	-	621	621	-	-	621
Whole milk power	'04	573	-	573	99	1,412	-	1,512
	'03	548	-	548	447	1,212	1	1,660
	'02	522	-	522	-	1,074	-	1,074
	'01	497	-	497	407	1,092	40	1,539
	'00	471	-	471	180	512	-	692
	'99	446	-	446	326	135	-	461
	'98	420	-	420	75	119	-	194
	'97	395	-	395	320	121	-	441
	'96	369	-	369	16	-	-	16
	'95	344	-	344	344	-	-	344
Evaporated milk	'04	130	-	130	-	190	-	190
	'03	124	-	124	-	53	-	53
	'02	118	-	118	-	11	0	11
	'01	113	-	113	-	48	0	49
	'00	107	-	107	19	17	1	37
	'99	101	-	101	-	-	0	0
	'98	95	-	95	-	-	-	-
	'97	90	-	90	-	2	-	2
	'96	84	-	84	50	-	-	50
	'95	78	-	78	78	-	-	78
Whey	'04	54,233	-	54,233	35,740	121	-	35,861
	'03	50,763	-	50,763	39,202	320	61	39,582
	'02	47,292	-	47,292	35,199	153	1	35,353
	'01	43,822	-	43,822	38,457	142	6	38,604
	'00	40,351	-	40,351	38,796	86	2	38,884
	'99	36,881	-	36,881	30,544	40	35	30,619
	'98	33,411	-	33,411	23,976	30	9	24,015

	'97	29,941	-	29,941	21,256	11	1,713	22,981
	'96	26,470	-	26,470	22,973	-	-	22,973
	'95	23,000	-	23,000	22,250	-	-	22,250
Butter	'04	420	-	420	420	1,272	193	1,885
	'03	401	-	401	401	725	171	1,296
	'02	382	-	382	382	486	178	1,046
	'01	363	-	363	363	554	154	1,071
	'00	345	-	345	345	431	156	931
	'99	326	-	326	326	443	127	896
	'98	307	-	307	307	131	61	499
	'97	288	-	288	288	862	2	1,152
	'96	269	-	269	268	-	-	268
	'95	250	-	250	250	-	-	250
Lactose	'04	9,400			14,509	25	138	14,672
	'03	8,982			15,647	9	115	15,770
	'02	8,565			15,395	10	211	15,615
	'01	8,147			14,104	374	247	14,725
	'00	7,729			14,755	68	285	15,108
	'99	7,311			12,062	136	265	12,463
	'98	6,893			10,641	100	-	10,740
	'97	6,476			11,332	7	425	11,763
	'96	6,058			11,194	-	-	11,194
	'95	5,640			9,918	-	-	9,918
Oranges	'04	57,017	-		247	102,557		154,444
	'03	50,682	-		50,497	94,151	233	144,881
	'02	45,051	-		44,059	58,404	191	102,654
	'01	40,045	-		31,993	58,807	179	90,980
	'00	38,343	-		31,215	67,504	297	99,017
	'99	33,674	-		22,269	6,811		30,853
	'98	29,006	-		27,177	9,388	94	36,659
	'97	24,337	-		24,681	13,671	2	38,354
	'96	19,669	-		19,669	-	-	19,669
	'95	15,000	-		14,986	-	-	14,986
Rice	'04				199,004	-		238,070
	'03		-		143,154	-		167,677
	'02		-		151,139	-		173,008
	'01		-		93,113	-		115,853
	'00		-		172,044	-		188,532
	'99		-		155,659	-		166,462
	'98	89,787	-		43,969	-		66,850
	'97	76,961	-		8,000	-		29,181
	'96	64,134	-		64,134	-	-	64,134
	'95	51,307	-	51,307	51,307	-	-	51,307

Source: KREI. Dash means not applicable.

Table 11. Korean Imports of Dairy Products and Tariff Schedule by Selected Product, 2003 and 2004

Product	2003 imports		2004 imports		Single tariff (%)		Two-tier tariff (%)			Minimum Market Access (MMA) (tons)	
							Tariff within MMA	Tariff over MMA			
	Tons	$1000	Tons		1995	2004	2004	1995	2004	1995	2004
Milk	0	0	0	0	46.3	36	--	--	--	--	--
Skim milk powder	7866	4560	8729	4389	--	--	20	215.6	176	621	1,034
Whole milk powder	2972	1660	3190	1512	--	--	40	215.6	176	344	573
Condensed milk	125	53	295	190	--	--	40	98	89	78	130
Whey			26334		--	--	20	94.1	49.5	23,000	54,233
Butter	3003	1380	8774	4055	--	--	40	98	89	250	420
Formulated butter			35348		8	8	--	--	--	--	--
Cream	2113	2030	7276	5286							
Cheese			120197		39.6	36	--	--	--	--	--
Lactose	9287		9678		--	--	20	94.1	49.5	15,000	9,400
Mixed powder[1]			63593		39.6	36	--	--	--	--	--
Infant formula		3035	16959	2995							
Casein		5236	34411	6179	24.8	22.5	--	--	--	--	--

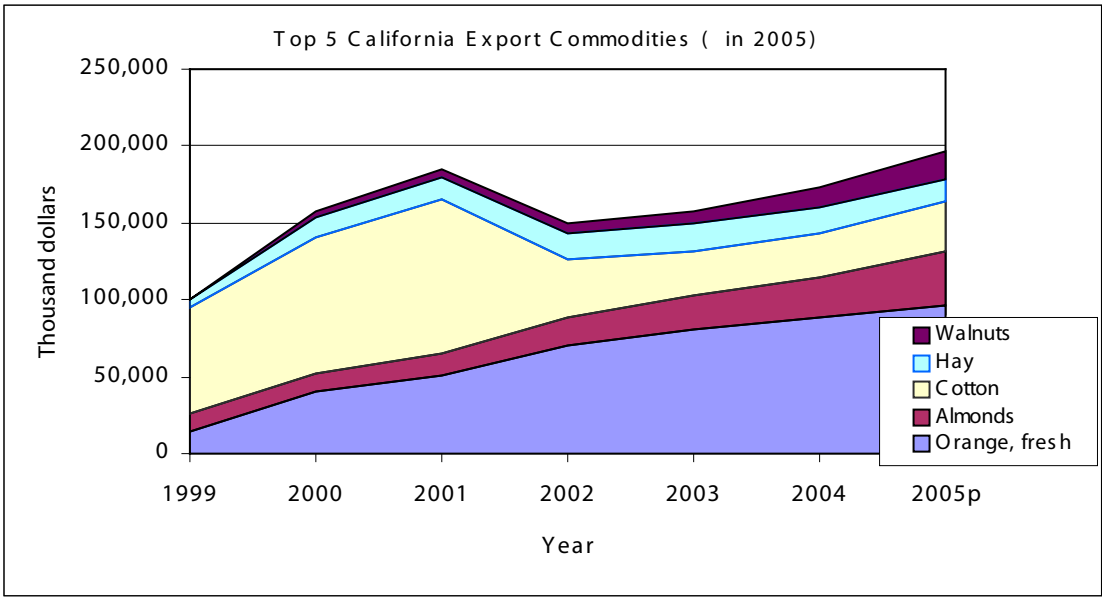
Source: Korean Dairy Year Book (2005)

1. Mixed powder was imported under the MMA restriction until 2000 (26,415 tons in 2000), but since then there is no MMA restriction.

market potential for california commodities

Many commodities have the potential for significant export expansion if negotiators are able to complete a KORUS-FTA and the legislative branches are willing to allow the agreement to enter into force. The data discussed above provide much of the information needed to consider the market potential. This section briefly highlights the main points for several commodity groups.

FIGURES 3: CALIFORNIA AGRICULTURAL EXPORTS BY PRODUCT, 1999 -2005

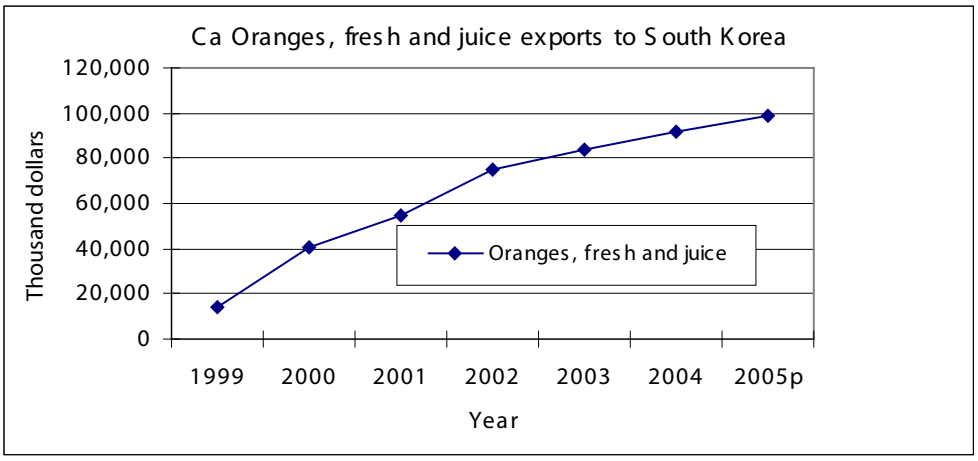


SOURCE: U.C. AGRICULTURAL ISSUES CENTER, ANNUAL CALIFORNIA INTERNATIONAL AGRICULTURAL EXPORT ESTIMATES, 1999-2005.

CITRUS

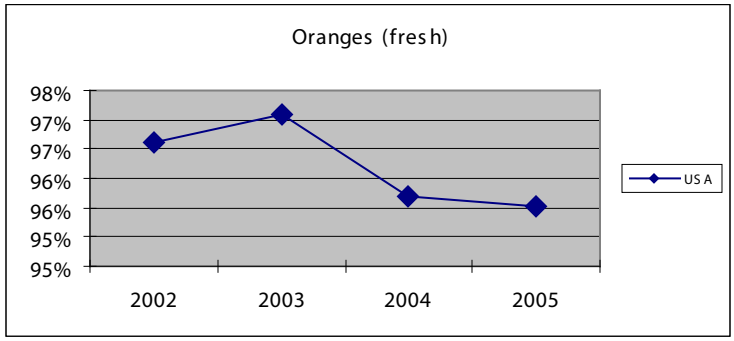
The orange export success in Korea, despite high tariffs, shows that the industry has potential to expand further. There is no current import competition and the competitive Korean product is a Satsuma orange that is only available seasonally. A large domestic price decrease, of 20 to 30 percent, caused by the removal of the import tariff, would expand the market by at least an equal magnitude as consumers shift more to oranges. Lemons and grapefruit are much smaller export products but also would see prices decline by 20 to 30 percent depending on the specific tariff line.

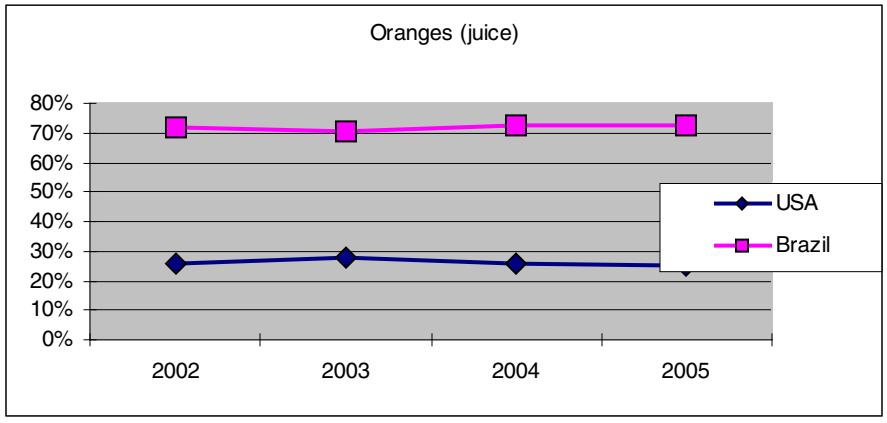
Figures 3: California agricultural exports by product, 1999 -2005

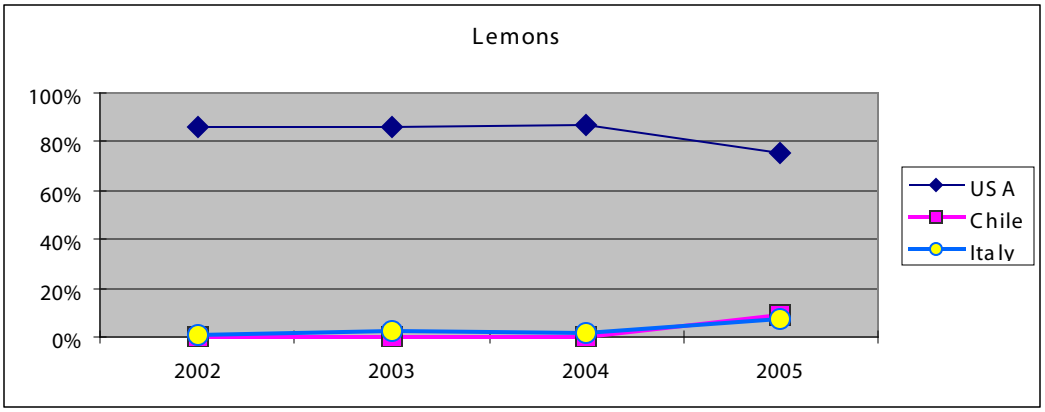


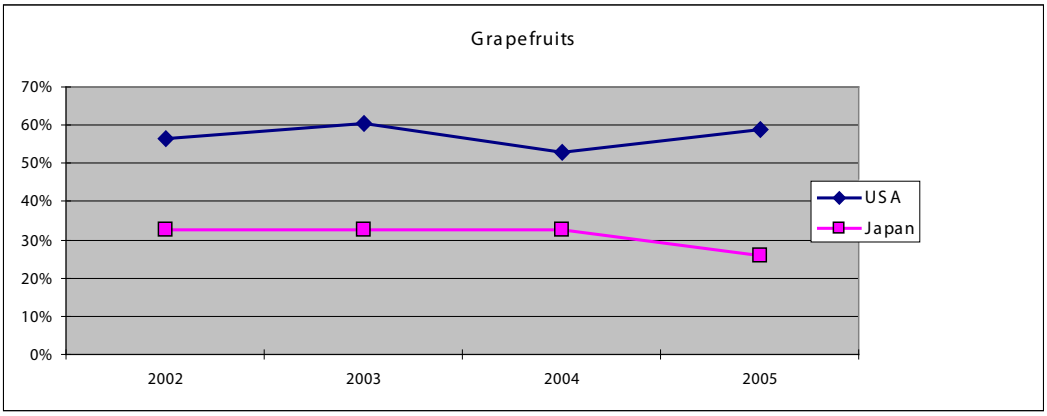
Source: U.C. Agricultural Issues Center, Annual California International Agricultural Export estimates, 1999-2005.

Figures 4. Import Shares of the United States and Major Import Competitors in the Korean Market, 2002-2005






Lemons
100%
80%
60%
40%
20%
0%
2002
2003
2004
2005
USA
Chile
Italy


Grapefruits
70%
60%
50%
40%
30%
20%
10%
0%
2002
2003
2004
2005
USA
Japan

GRAPE PRODUCTS

Table grapes have one of the largest potential for expansion in the Korean market. Korean grapes are available seasonally, but the California season is longer. Elimination of the 45 percent tariff would allow the California grape industry to replace some Korean product and also supply grapes during the months when Korean grapes are unavailable or extremely costly, and the Chilean product is not yet in the market. Under the Korean FTA with Chile, the tariff rate for table grapes is set at 28.9 percent in 2007 and scheduled to go to zero in 2014. Grape juice and raisins face tariffs of between 21 and 45 percent and face no domestic or significant import competition.

Source: U.C. Agricultural Issues Center, Annual California International Agricultural Export estimates, 1999-2005.

Substantial domestic price declines would allow significant market expansion from a very small base for both products. Elimination of the 30 percent tariff on wine would allow the California industry to compete effectively with other import suppliers and match the tariff advantage now enjoyed by Chilean wine (zero tariff on Chilean wine). The Korean wine market is expanding and California's share of that growth would be much enhanced by a tariff advantage relative to European and Australian wines.

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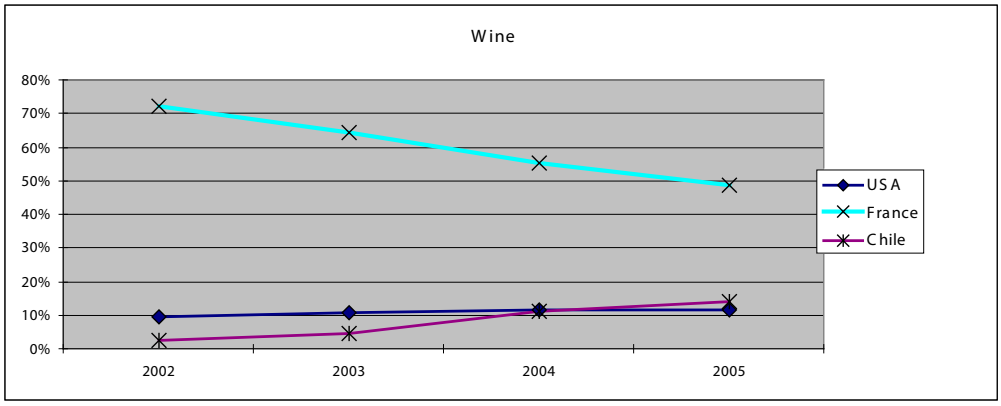
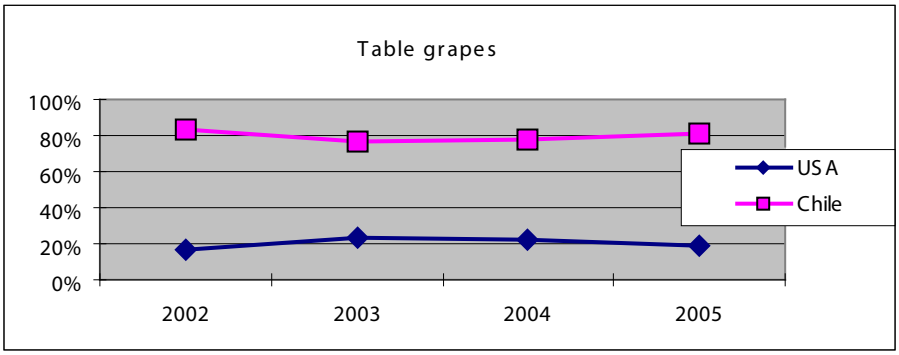
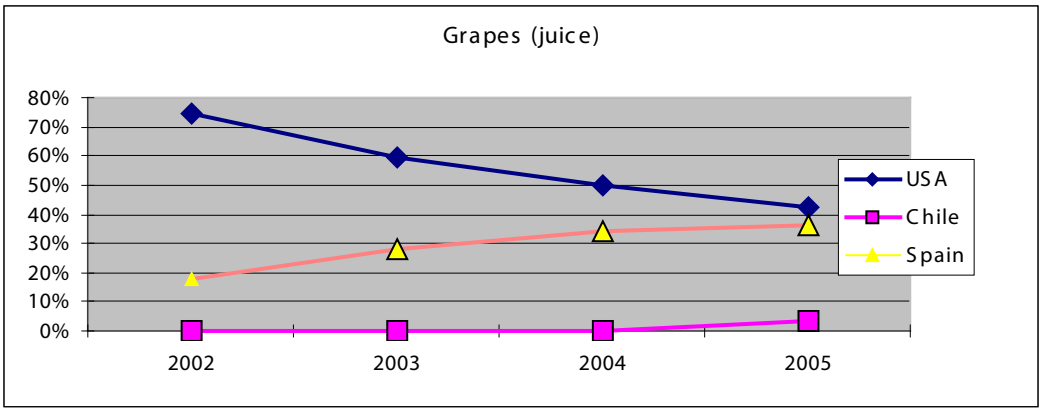
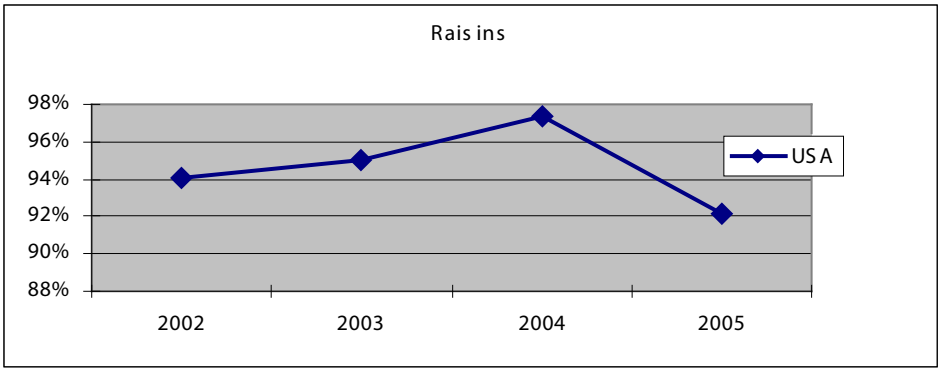
Figures 4. Import Shares of the United States and Major Import Competitors in the Korean Market, 2002-2005





Figures 4. Import Shares of the United States and Major Import Competitors in the Korean Market, 2002-2005 (continued)



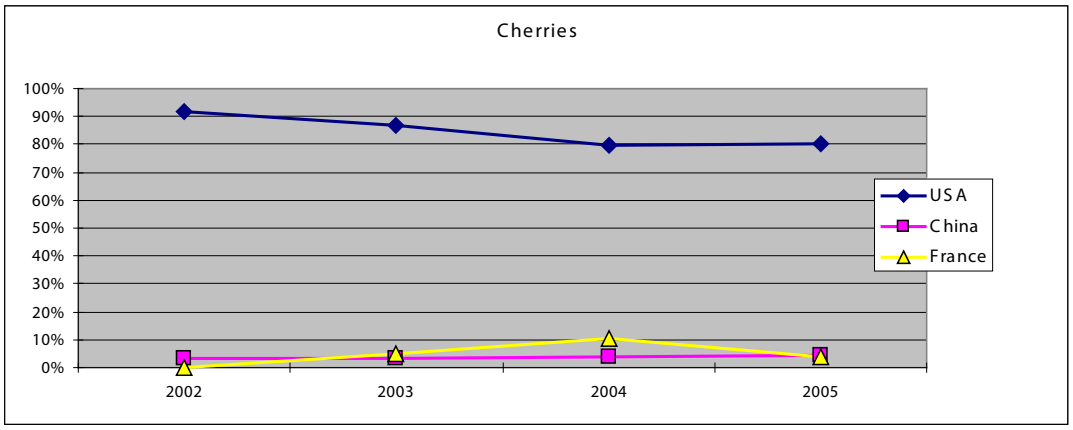


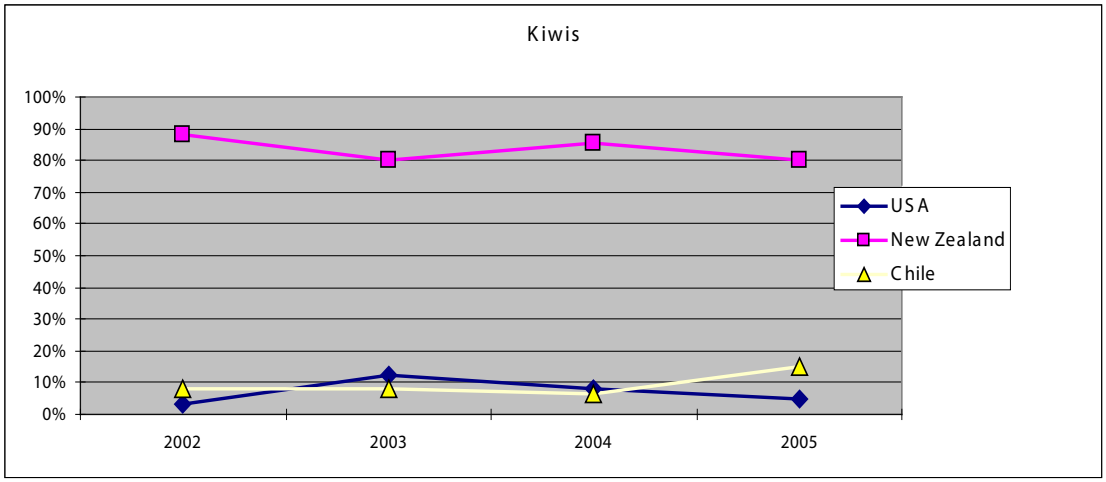
FRUITS AND BERRIES

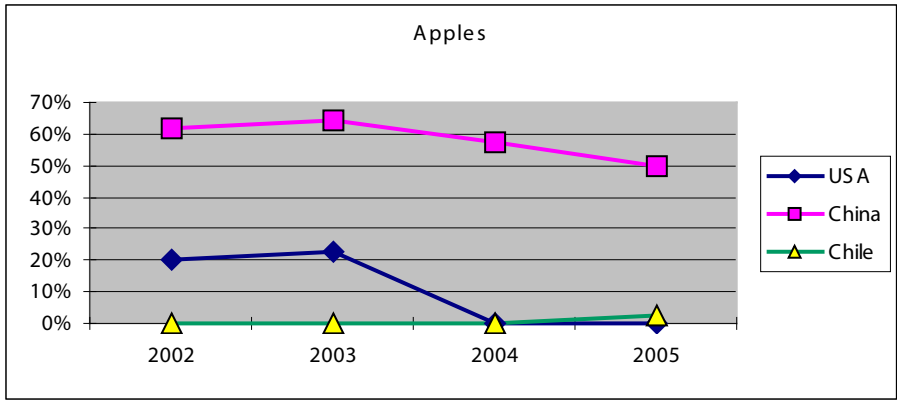
Most California stone fruits other than cherries are not in the Korea market in a significant way. Elimination of the 24 percent to 50 percent would allow market penetration for both fresh fruit and canned fruit. Processed peaches may have an export potential. Among the canned fruits, peaches are a significant item in Korea, and currently imports are dominated by South Africa, Greece and China. Elimination of the approximately 50 percent tariff for canned peaches from the United States would allow a significant price advantage for California products. The market for processed pears (45 percent tariff), which is also dominated by South Africa, Greece and China, is small presently, but may show some potential for California export, and the prune market (18 percent tariff), which is also small, may expand with new demand under the lower price.

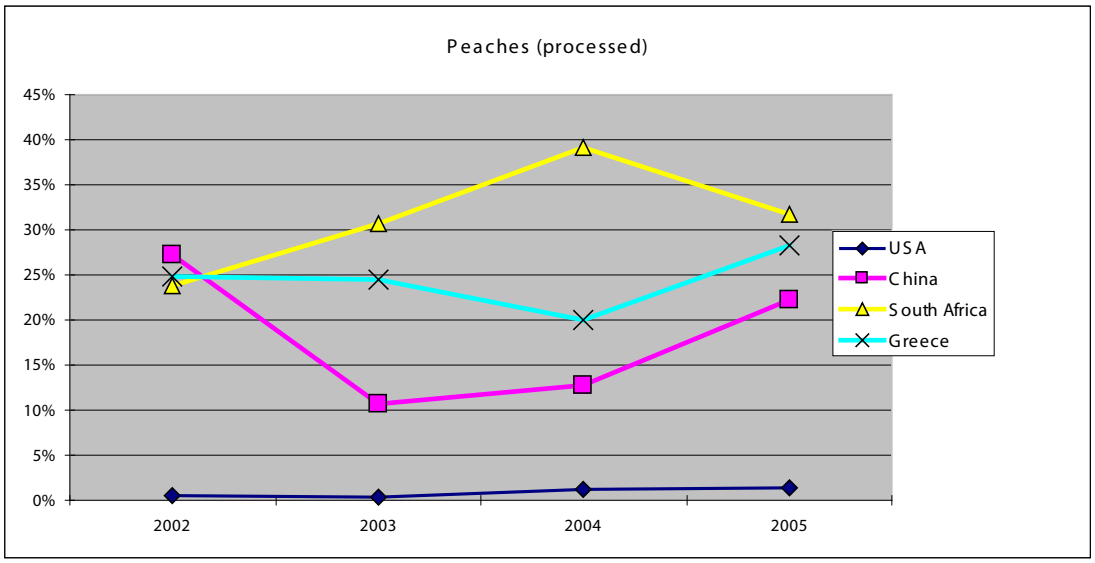
Strawberries and kiwis have small footholds in the Korean market despite facing tariffs of 20 percent to 45 percent and competition from New Zealand in the case of kiwi and a significant, but high cost, domestic industry in the case of strawberries. The California strawberry industry is in a very strong position to compete for a growing Korean fresh fruit market as their domestic price declines relative to the domestic competitors. California olives face competition from Europe so their big advantage would be a lower price and the potential to divert trade away from competitors that do not get the preferential tariff reductions.

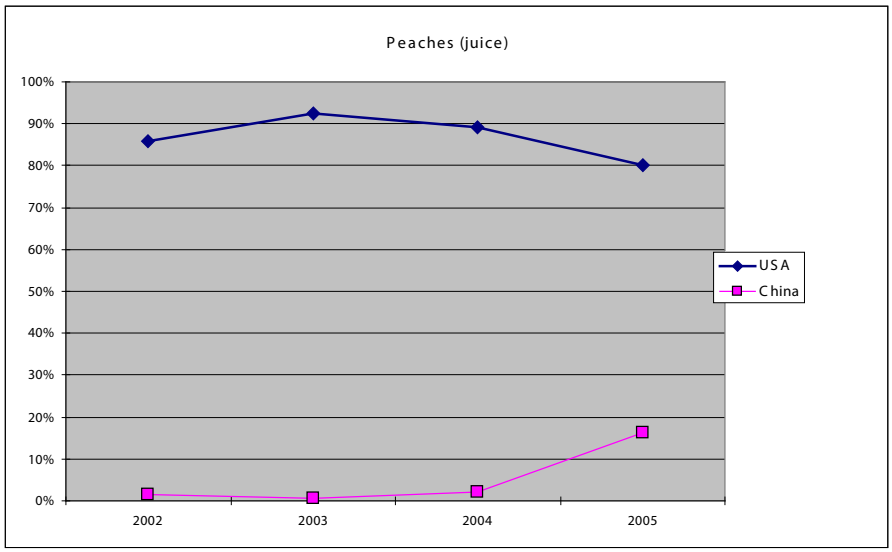
Figures 4. Import Shares of the United States and Major Import Competitors in the Korean Market, 2002 -2005

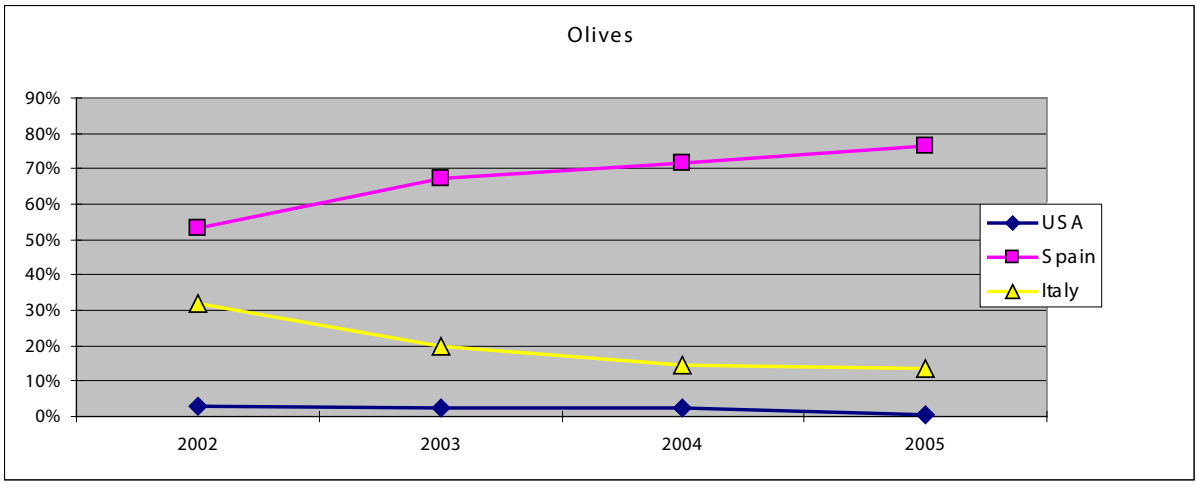


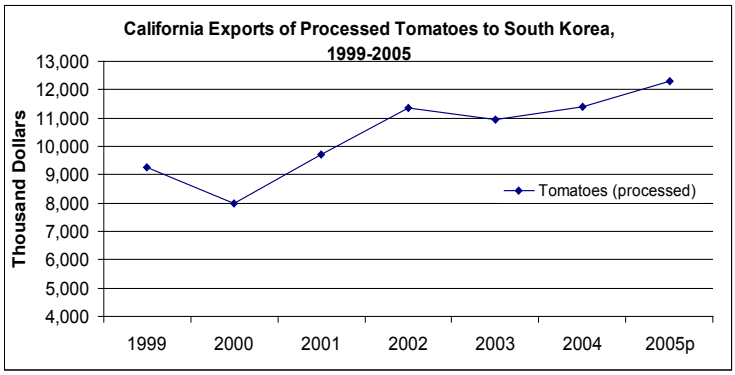


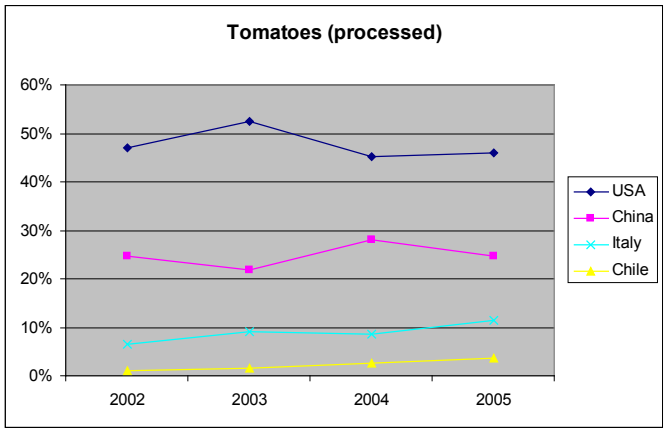

Apples
70%
60%
50%
40%
30%
20%
10%
0%
2002
2003
2004
2005
USA
China
Chile


Peaches (processed)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
2002
2003
2004
2005
USA
China
South Africa
Greece


Peaches (juice)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2002
2003
2004
2005
USA
China


Olives
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2002
2003
2004
2005
USA
Spain
Italy

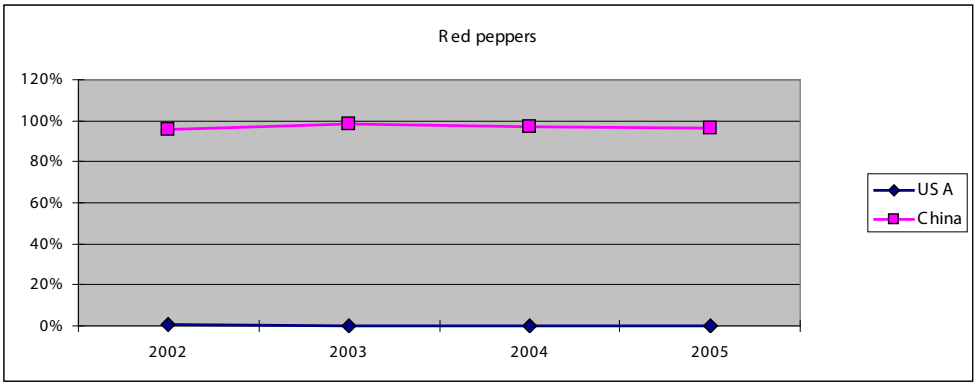

California Exports of Processed Tomatoes to South Korea, 1999-2005
Thousand Dollars
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
1999
2000
2001
2002
2003
2004
2005p
Tomatoes (processed)

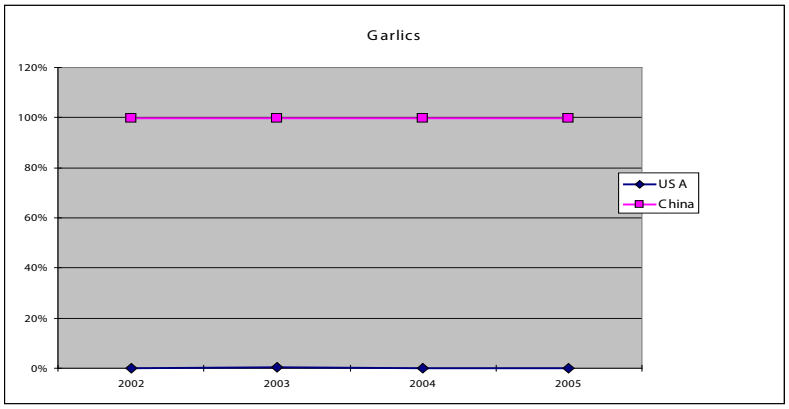

Tomatoes (processed)
60%
50%
40%
30%
20%
10%
0%
2002
2003
2004
2005
USA
China
Italy
Chile

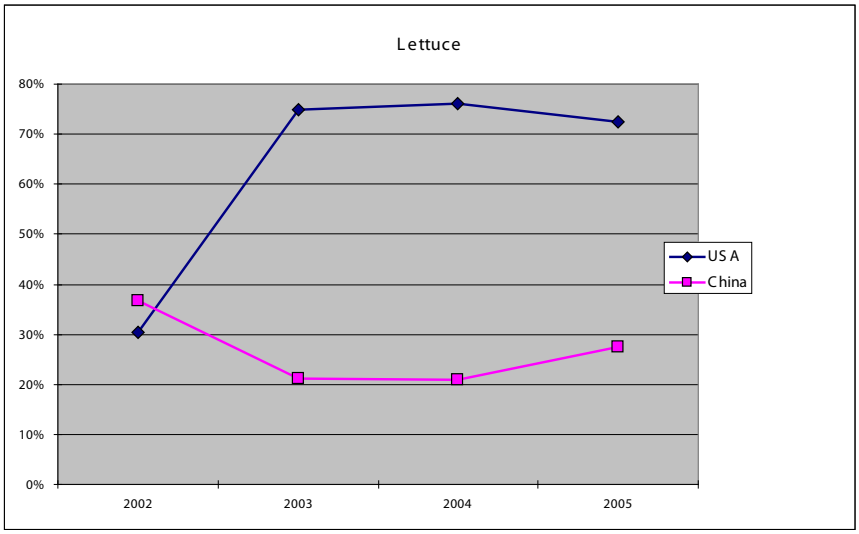
FRESH VEGETABLES

Korea has begun to import lettuce, even with the 45 percent tariff. Imports ($1.3 million) are currently a small share of the lettuce sales of the more than $200 million industry in Korea. However, the fact that California producers were able to penetrate into the Korean market over the 45 percent tariff and California lettuce competes mostly with off-season, high cost-greenhouse lettuce in Korea suggest further export potential. The domestic industry for other fresh leafy vegetables (such as spinach) that are favored by Korean consumers has high costs, so the potential for large expansions is real. Other fresh vegetables that are not part of the traditional Korean diet, such as asparagus or artichokes could also take advantage of the health conscious and more global Korean consumers, as prices fall.

Figures 4. Import Shares of the United States and Major Import Competitors in the Korean Market, 2002-2005



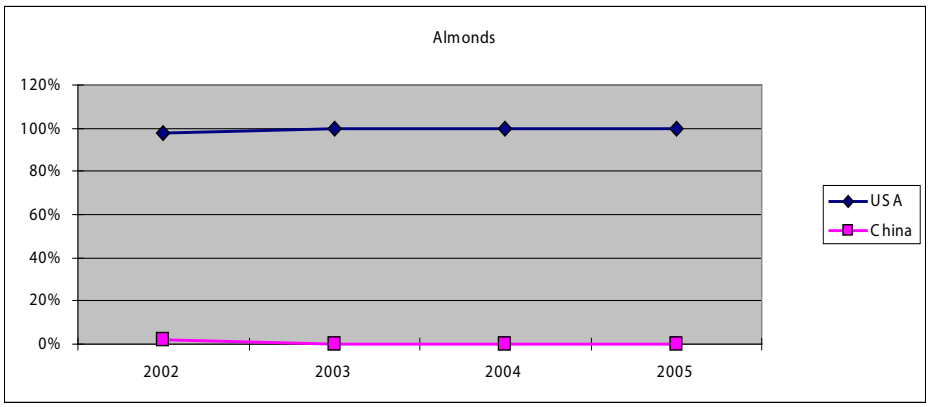


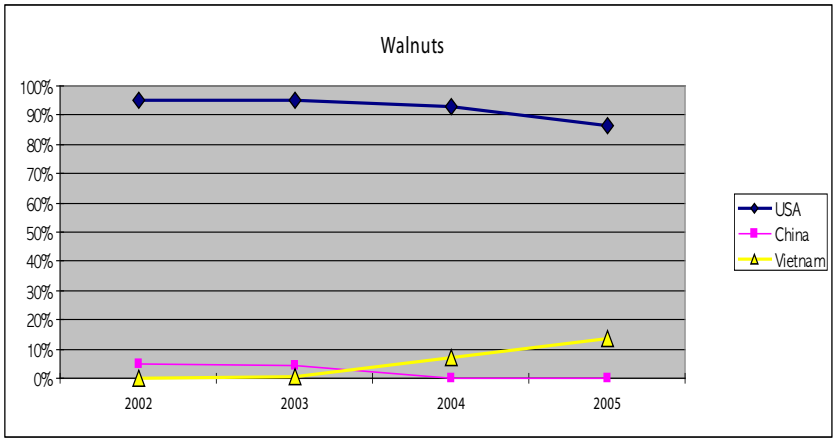


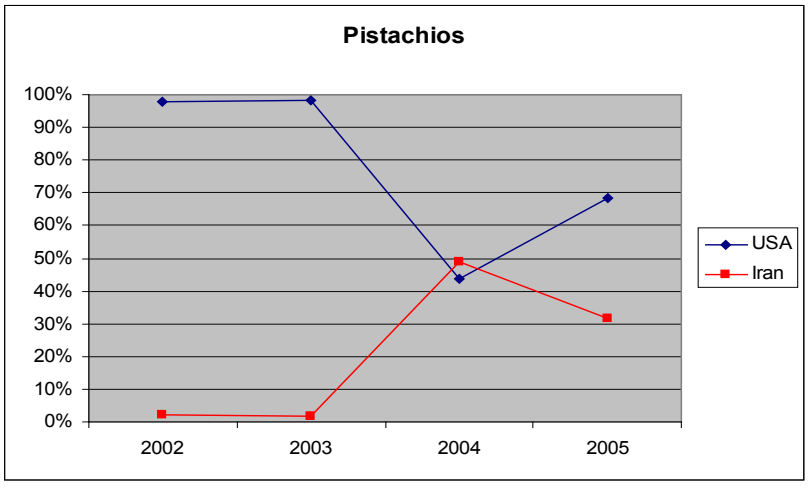
TREE NUTS

The California tree nut industry successfully exports globally and Korea has begun to increase imports despite the tariffs of 21 percent to 45 percent. California has a strong presence in the Korean market for tree nuts. Tariff elimination would allow the industries to build on recent momentum. Tree nuts fit well with the Korean diet, and there is no domestic industry to offer competition. The current imports of more than $50 million are ready to expand rapidly with tariff elimination and hence lower prices for Korean customers.

Figures 4. Import Shares of the United States and Major Import Competitors in the Korean Market, 2002 -2005 (continued)



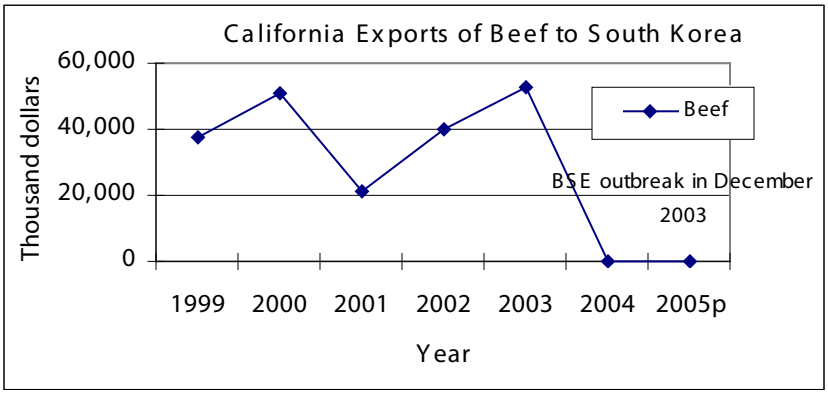


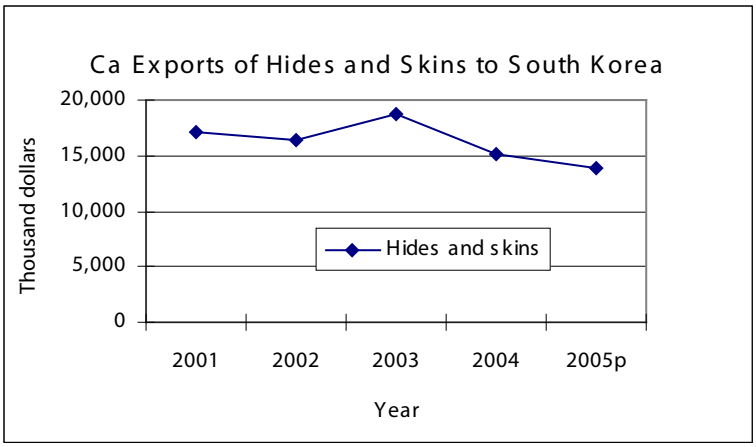


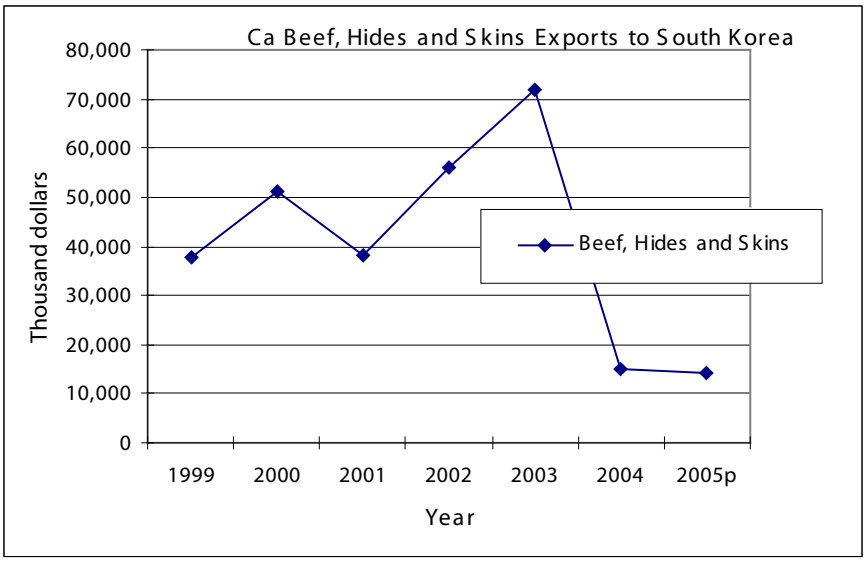
BEEF

The elimination of the trade ban that accompanied finding BSE in the U.S. cattle herd is scheduled for October 2006. During the two-year absence of U.S. beef, Australia expanded its market share. However, many Korean consumers prefer the U.S. product and elimination of the 18 percent to 40 percent tariff would allow California beef to enter at lower prices than that of the lower quality Australian beef. Thus, the Korean market is poised to expand substantially by taking market share from both Australian beef and maybe from the local Korean beef. Also, the overall market for beef will expand given lower prices that allow consumers to buy more beef on a regular basis.

Figures 3: Patterns of Exports of California agricultural exports by product, 1999 -2005







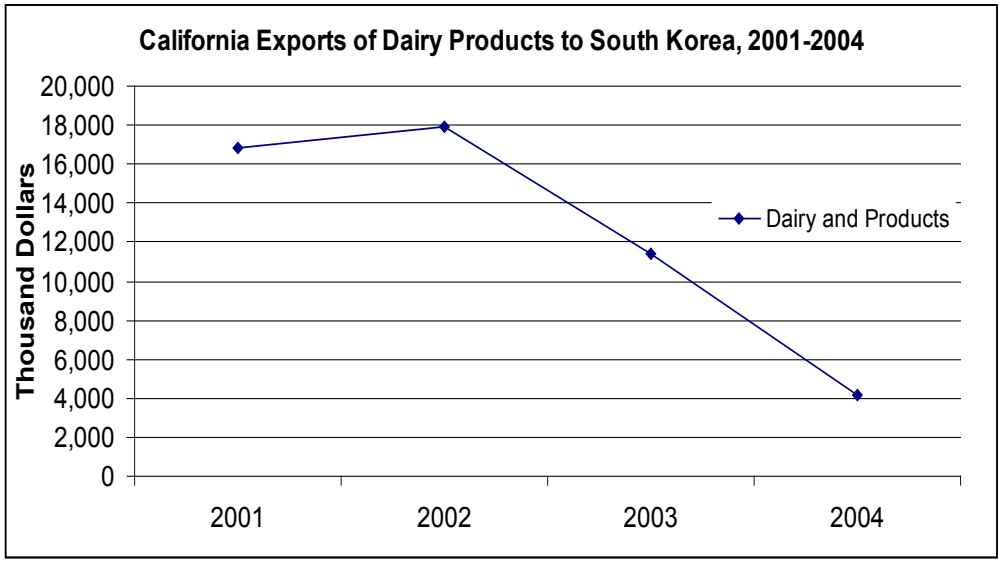
Source: U.C. Agricultural Issues Center, Annual California International Agricultural Export estimates, 1999-2005.

KOREAN TRADE POLICY AND IMPORT PATTERNS FOR DAIRY PRODUCTS

Dairy products are the number one agricultural product in California measured by total revenue and the California industry has expanded substantially and for that reason alone it is important to understand the potential effects of opening the Korean market. Korea has already been a significant export destination for California dairy products with almost $18 million exported in 2002. However, exports declined in subsequent years. The potential for dairy exports is important to consider in some detail for two additional reasons. The dairy product market in Korea is large in value and Korea is already an established export market for major exporters of dairy products. Second, Korea clearly has a cost disadvantage in dairy production, but the domestic industry is sustained by government price subsidies. This suggests that any changes in government dairy policy may offer an additional market potential for exporters, especially for those processed products that do not entail high shipping costs. This section reviews the potential for trade liberalization to create new market opportunities in the dairy market.

Dairy products were introduced into Korea as "Western" foods in recent decades. The industry, which produced 48 thousand tons of raw milk in 1970, has grown to produce 2.5 million tons of raw milk in 2002. Herd size per farm has also grown rapidly from under 10 cows per herd in 1985 to 47 cows per herd in 2002. Milk consumption in Korea has also shown rapid expansion. During 1975 through 2002, total consumption of dairy products increased by almost twenty times, from 162 thousand tons to 3.06 million tons (in raw milk equivalent terms). Per capita consumption grew from 4.6kg to 64.2kg. Until the middle of the 1990s, more than 70 percent of total consumption was in fluid use, but by 2003, non-fluid use has increased to 50 percent of total consumption. Fluid milk consumption is supplied solely from domestic sources, while about one-half of non-fluid consumption is supplied from imports.

Figures 3: California agricultural exports by product, 1999 -2005



Behind high tariffs and tight tariff rate quotas, the government also provided domestic support measures, most importantly, the government requires that raw milk be purchased from farmers at prices above the competitive market price.

Until 1994, Korea maintained strict import quotas for most dairy products. With the Uruguay Round WTO agreement, Korea formally opened the dairy market, at least a small amount. Under that agreement Korea provided minimum access (MMA) quotas and relatively low within-quota tariff rates. However, the over-quota tariff rates remain very high. Before implementation of the WTO agreement, annual imports of dairy products ranged between 4 and 9 percent of total domestic consumption. However, when the new WTO agreement was implemented in 1996, imports increased sharply from 9 to 19 percent of total raw milk-equivalent consumption. In 2002, imports comprised 21 percent of domestic consumption. After the initial increase in imports in 1996, only the imports of cheese and formulated infant powder continued to grow, while the imports of other products either decreased or changed little. Cheese imports grew at an average annual rate of 19 percent from 1995 to 2004. In 2004, cheese accounted for almost 40 percent of all dairy imports by value.

Currently, all imported dairy products are subject to either a single rate of tariff or a two-tier tariff rate quota system. During the 10-year Uruguay Round implementation period (1995-2004), over-quota tariff rates fell each year, but the lower within-quota tariffs did not fall. The tariff rates vary significantly across products. For example, skim milk powder has a tight quota for which the lower tariff of 40 percent and an over-quota tariff of 176 percent apply (in 2004). Butter has an 89 percent over-quota

tariff. At the other end of the spectrum, formulated butter (which is about 70 percent milk fat) has a single tariff of 8 percent. Cheese imports have a single tariff of 36 percent. These tariff patterns account for the high imports of cheese and formulated butter relative to the imports of products such as skim milk powder and butter. For example, in 2003, Korea imported only 1,380 tons of butter, but 13,161 tons of formulated butter. Table 10 and Table 11 provide details about the quotas and the tariffs that apply for each of the significant dairy products. These tables indicate that many imports exceed the within quota quantities so many imports find it profitable to pay the high duty and continue to export. However, imports are limited overall. There are also large differences in the tariffs across products that may substitute in the Korean market. This is discussed in the case of milk fat products below.

All dairy products imported under a tariff rate quota far exceeded the quota quantity and had a substantial proportion of imports paying the high tariff rates. (However, when products imported under high tariffs are re-exported, importers can get the reimbursement of high tariffs. We believe that this is what happened with the imports of skim milk powder and whole milk powder, which were imported under the prohibitively high tariffs.) However, given the tiny quota quantities and high over-quota tariffs, imports of butter and skim milk powder remain small relative to the imports of similar manufactured dairy products and relative to overall consumption. The import volume data suggest clearly that import demand for these high-tariff products shifted to similar products such as formulated butter, whey powder and mixed powder that face much lower import barriers. With the substitution across products, demand may be best thought of as associated with dairy components such as fat and non-fat solids that are used to manufacture final products, rather than specific final products themselves. Based on this observation, Lee, Sumner and Ahn present simulation results that were based on such a component basis.

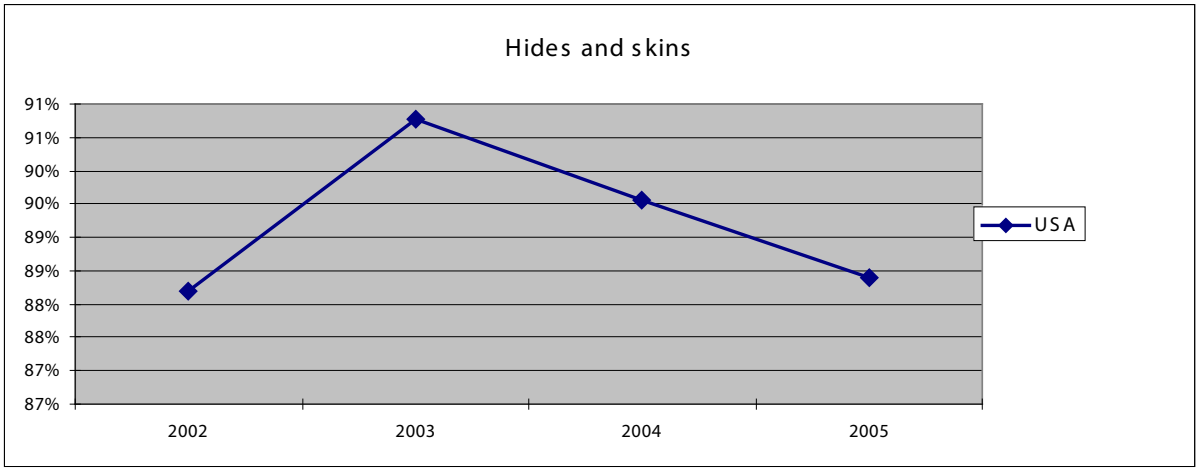
To investigate the effects of trade liberalization on the Korean dairy market, Lee, Sumner and Ahn compared the potential effects of trade policy changes to baseline projection under which Korean demand for dairy products continues to expand. They incorporate the following important features: 1) Use of fluid beverage milk will continue to be supplied by the domestic dairy industry, meaning that imports compete with the domestic milk production in excess of fluid use that is available for manufacture of tradable products; and 2) Non-fluid dairy products are converted into two components, fat and non-fat solids. The simulations consider three dairy outputs, fluid milk, milk fat and non-fat solids.

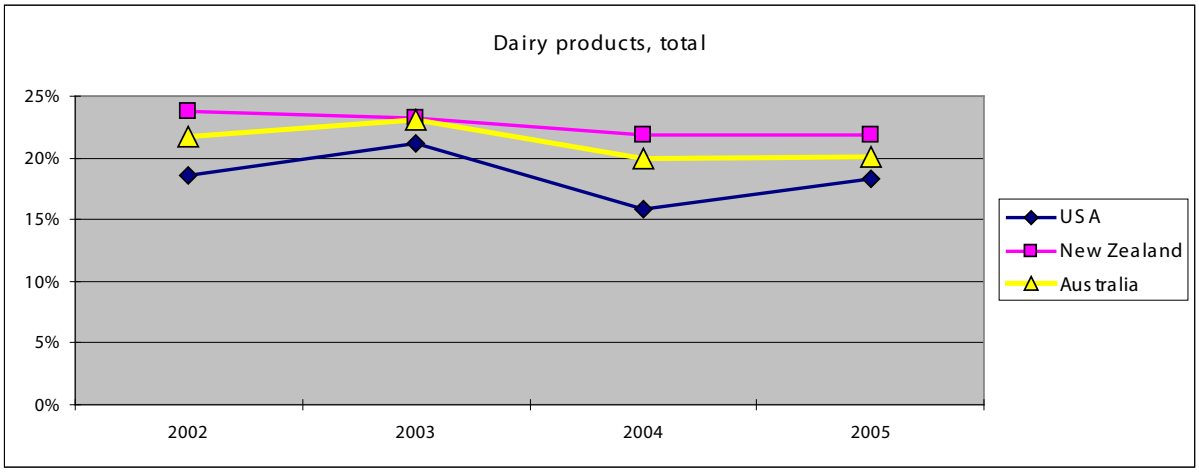
Lee, Sumner and Ahn consider the case under which Korea's high over-quota dairy product tariffs decline by 50 percent by 2015 and the lower within quota tariffs and single tariffs decline by 25 percent by 2015. One important assumption of this study has to do with the treatment of liquid yogurt. In Korea, liquid yogurt, a fermented yogurt drink, is very popular. Consumption of this liquid yogurt amounts to one quarter of raw milk production in Korea. Currently, this liquid yogurt is made directly from fluid milk, and does not involve any imported dairy products. Liquid yogurt is appropriately included in fluid milk consumption, which increases the share of domestic raw milk supplied for fluid use close to 90 percent.

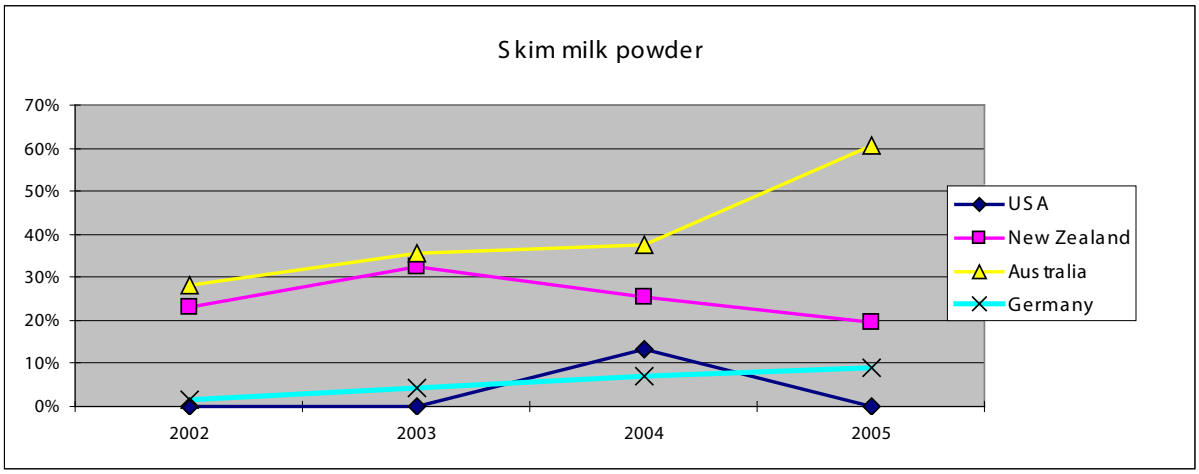
Simulation results for the 50 percent cuts in the over-quota tariffs and 25 percent cuts in the lower tariffs indicate that imports of fat increase by 9.2 percent and imports of non-fat solids increase by 6.6 percent. Korean raw milk production falls only modestly, by 1.8 percent. Given the fixed fluid milk price set by the government and thus no change in fluid milk consumption, the decline in raw milk production implies a 25.3 percent decline in domestic raw milk used for manufactured products. Korean consumption of fat for manufactured products increases by 4 percent and use of non-fat solids increases by 2.7 percent. The associated price declines are 10.1 percent for raw milk used for manufactured products, 7.3 percent for the fat component price and 11.4 percent for the non-fat solids price.

Full elimination of tariffs for imports of manufactured dairy products implies the price declines of 23.7 percent for milk fat and 29.6 percent for non-fat solids. In this case, imports of fat rise by 27 percent and the imports of non-fat solids rise by 18.1 percent. The quantity of Korean raw milk used for manufactured products falls by 69.4 percent and the price of raw milk used for manufactured products falls by 27.8 percent. Despite these large shifts in percentage terms, the quantity of raw milk produced falls by only 4.9 percent because Korea continues to produces almost totally for domestic consumption of fluid products.

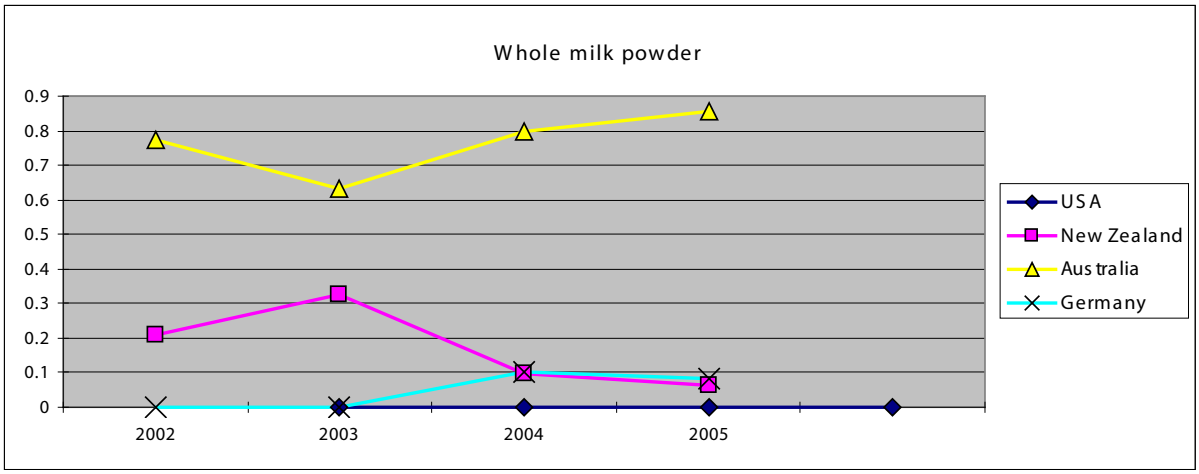
Figures 4. Import Shares of the United States and Major Import Competitors in the Korean Market, 2002 -2005 (continued)

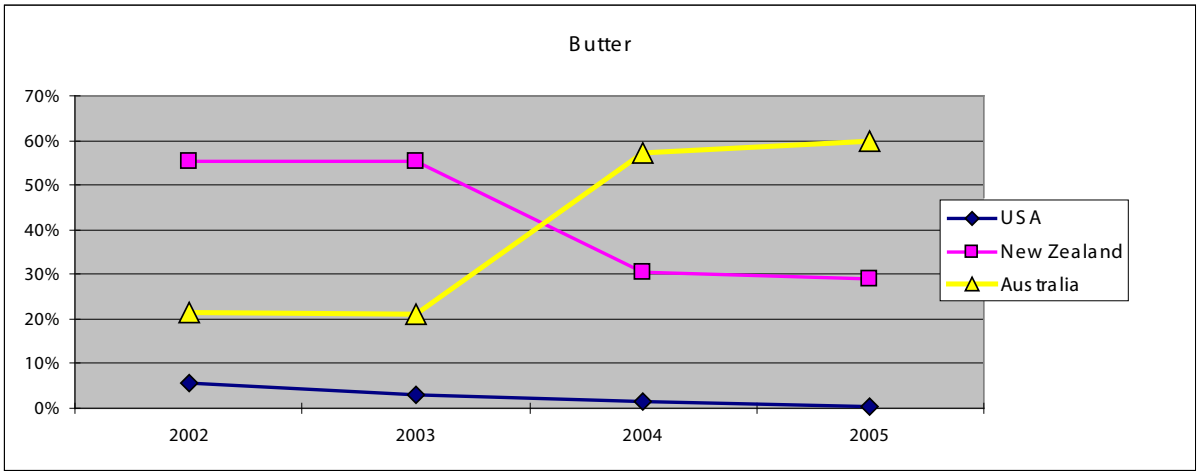


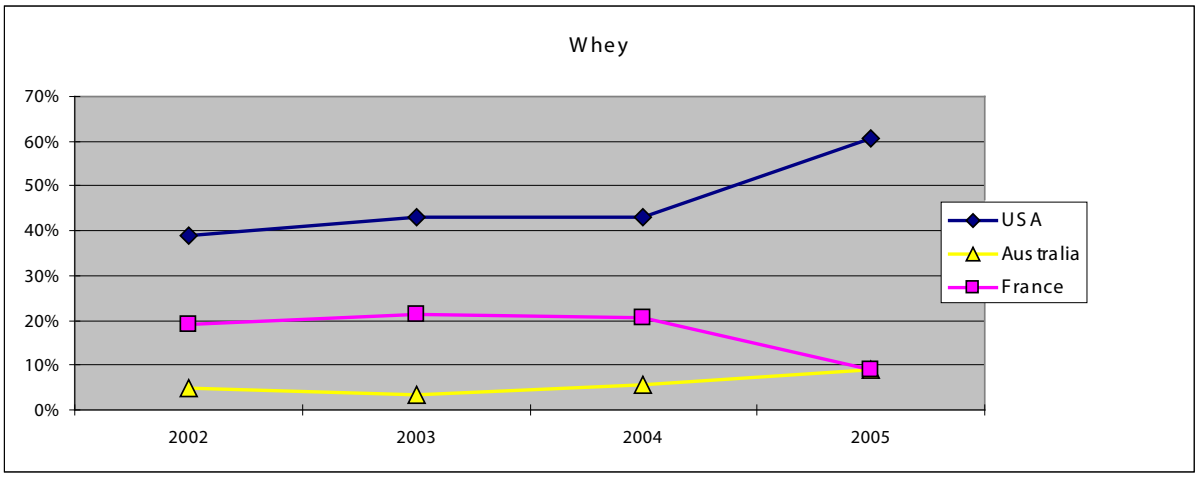




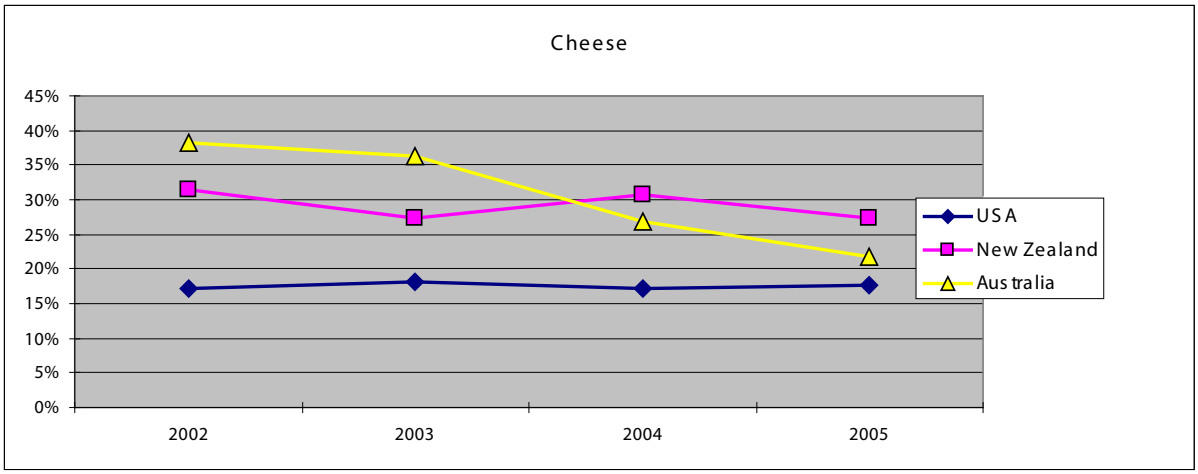
Figures 4. Import Shares of the United States and Major Import Competitors in the Korean Market, 2002 -2005 (continued)

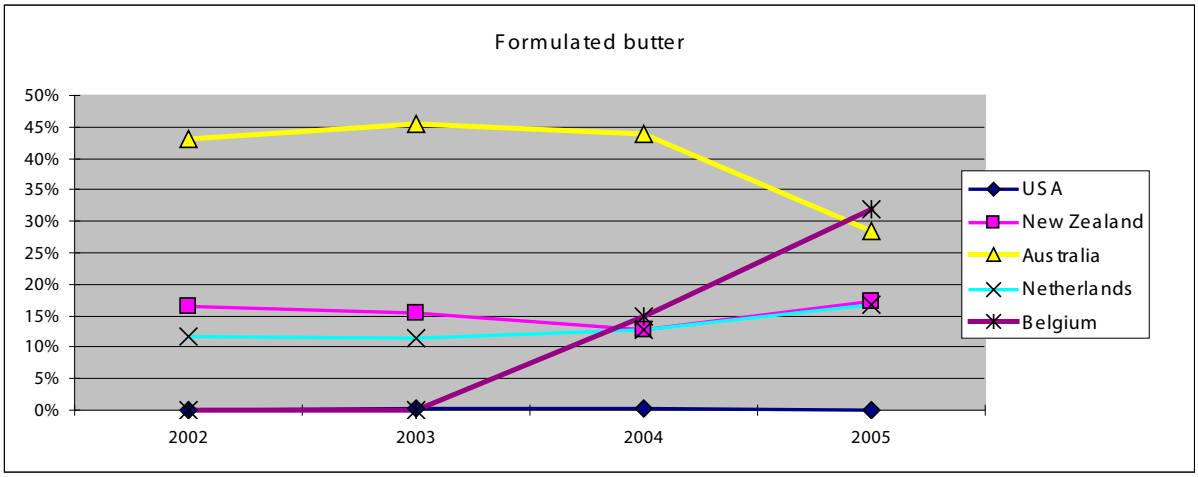


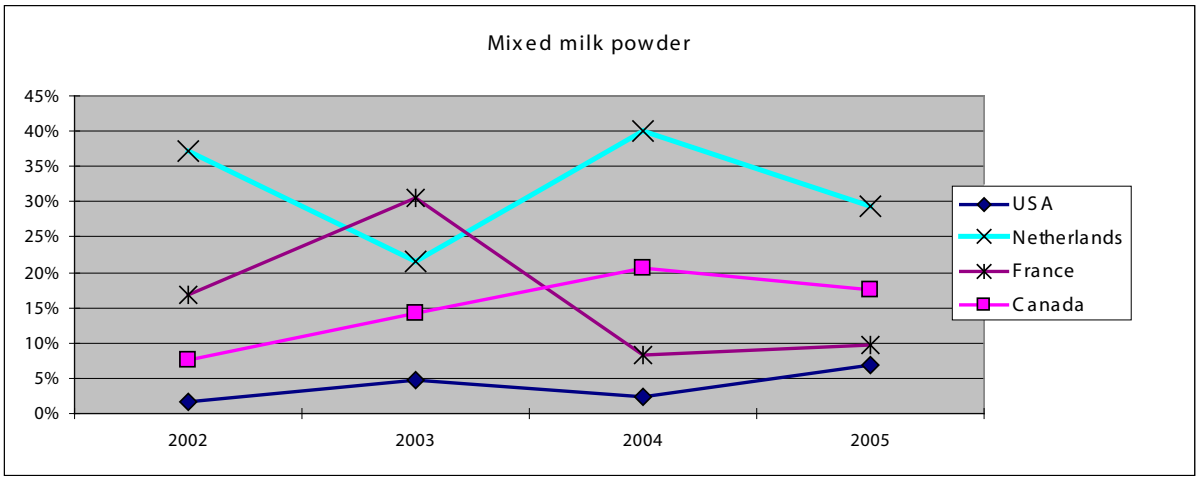




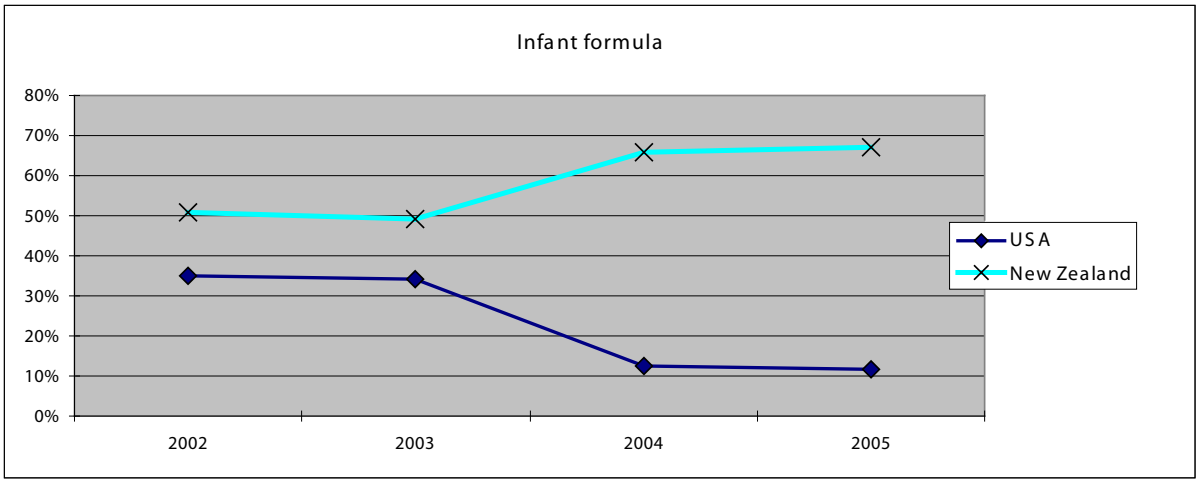
Source: Korea Agricultural Trade Information (http://www.kati.net).

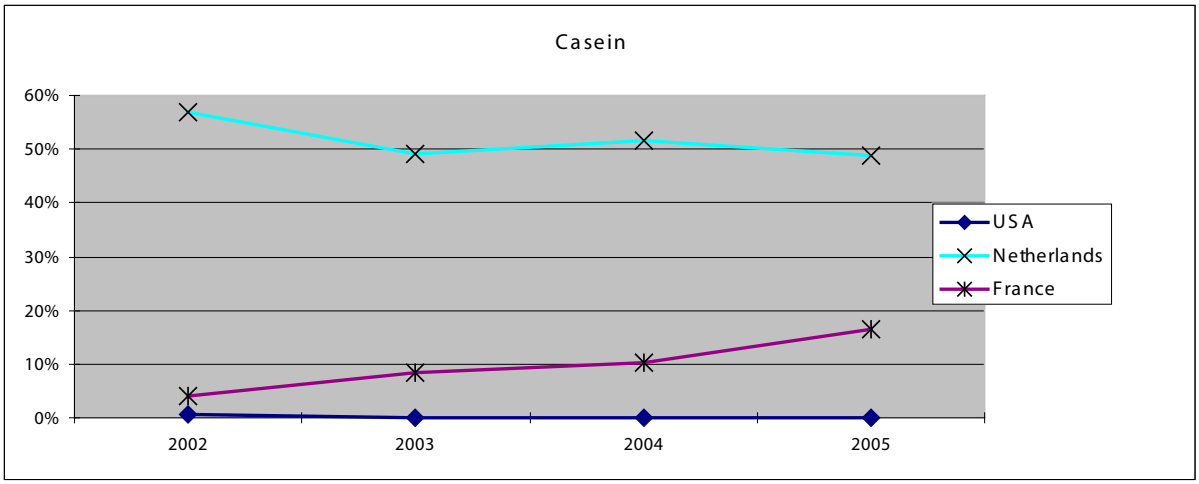






Source: Korea Agricultural Trade Information (http://www.kati.net).



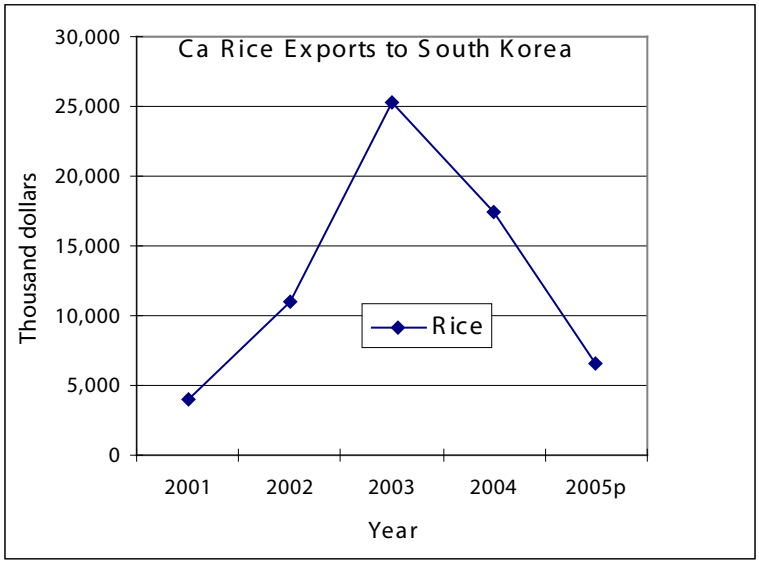


Source: Korea Agricultural Trade Information (http://www.kati.net).

INTERNATIONAL TRADE IN JAPONICA RICE AND POTENTIAL IMPACTS OF PARTIAL OPENING OF THE KOREAN MARKET

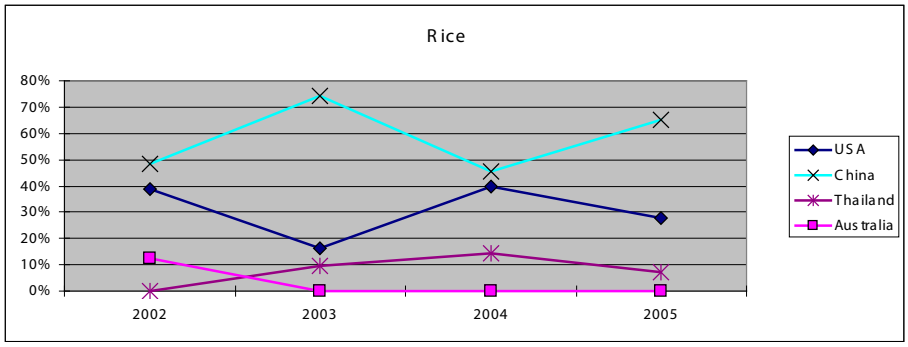
Rice is a central issue in the KORUS-FTA negotiations and of particular interest in California. It is therefore important to evaluate more fully the potential effects of a Korean rice market opening in the context of the full world market for japonica rice.

Rice is a major staple for more than a billion people. About 400 million tons of rice are produced and consumed globally each year. Rice is less traded internationally than other major grains. About 60 percent of that is produced and consumed within India and China. While Indonesia and Bangladesh produce and consume another 15 percent of the global rice supply. Thus, 75 percent of world rice is grown and consumed in places where it evolved as the staple food. The amount of rice that trades across national borders, currently about 25 million metric tons, is only about six percent of world rice production. Rice production and trade is of two major types—japonica rice and indica rice. Japonica rice is comprised of short and medium grain rice varieties that are relatively glutinous and are the traditional staples in Japan, Korea and parts of Northern China. California specializes in japonica rice. Indica rice varieties tend to have longer kernel lengths, are less glutinous and are the traditional staples in the more southern parts of Asia.



In 1995, Korea and Japan were allowed to use quotas rather than tariffication to implement World Trade Organization (WTO) commitments under the Uruguay Round agreement. Taiwan began to open its market in 2002, its first year in the WTO. The amount of market access into these countries currently ranges to about 1 million metric tons a year. This represents significant additional access in the relatively thin export market for japonica rice. Even though imports of japonica rice into these countries continue to be restricted, the significance of global development in the market for japonica rice is obvious. (China also pledged to allow imports of japonica rice specifically and separately in its WTO accession agreement in 2002, but China has been a net exporter of japonica rice.)

Figures 4. Import Shares of the United States and Major Import Competitors in the Korean Market, 2002 -2005



By 2005, South Korea was committed to provide access for import about 0.2 million metric tons under its WTO rice quota. Table 10 shows that imports of rice into Korea has followed the quota, which expanded, gradually from about 50,000 tons in 1995. Year-to-year imports sometimes exceed and sometimes fall short of the exact quota for that year as shipping discontinuities and delayed government action has made exactly matching the quota every year difficult. But over a period of years, Korea has accepted the required quantity. Korea has imported from a variety of sources in recent years, including from the United States and China. Little, if any, imported rice has entered the normal marketing channels for table rice in Korea. From 2005 to 2014 Korea is committed to importing another 0.2 million tons from a variety of suppliers, including the United States. A portion of this added quota must be sold in the domestic table rice market.

Japan is committed to provide access for about 0.68 million metric tons under a “low” tariff. Japan applies a prohibitively

high tariff to any potential imports above this quantity. Japan imports from a variety of sources, but traditionally has imported almost half of its total from California. Under their WTO accession agreements, China and Taiwan provided TRQ access to their domestic markets and agree that some portion of the potential imports would be handled outside the state trading enterprise system. The access agreement for China included separate commitments for japonica rice in the form of a tariff rate quota, but the quantities specified have not been binding and are not expected to be binding while China remains a net exporter of japonica rice.

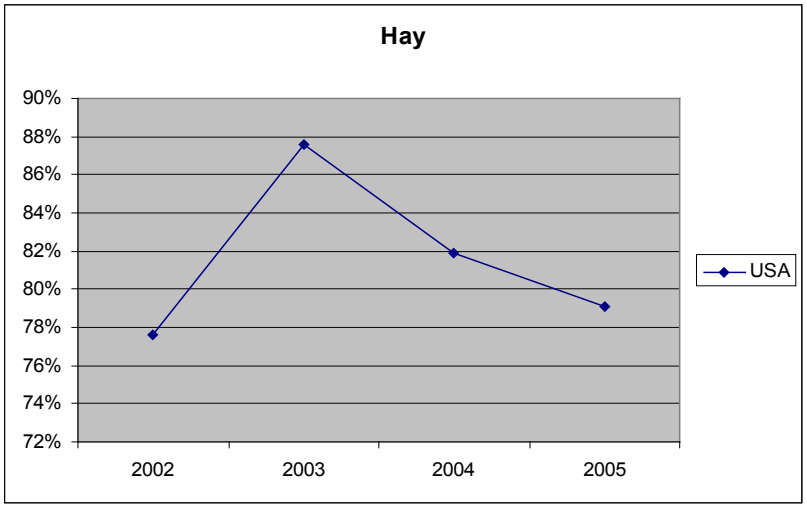
In order to consider the effects of the partial opening of the Korean market, Lee and Sumner specified the world japonica market focusing specifically on Korea. They considered scenarios under which Korea increases its minimum access from 2004 levels by 100 percent in 2014 available to all WTO members, that is, Korea complies with its agreement for an expanded quota under the 2005 agreement. Under a second scenario, the United States increases its access to the Korean rice market due to the KORUS-FTA.

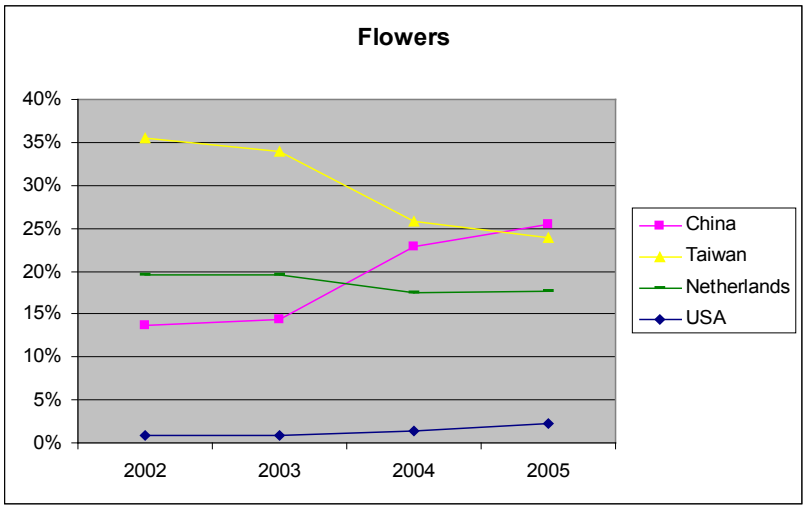
The quota expansion due to the FTA needs some discussion. Rice trade has extreme political sensitivity in Korea as indicated by the maintenance of a quota system and refusal to adopt tariffication for rice in the WTO. Given this background, we consider the scenario of an expanded quota particularly relevant to the FTA. The FTA scenario we examine assumes that by 2014 Korea expands a country-specific quota for the United States by 200,000 tons or 1.2 of the total WTO required quota.

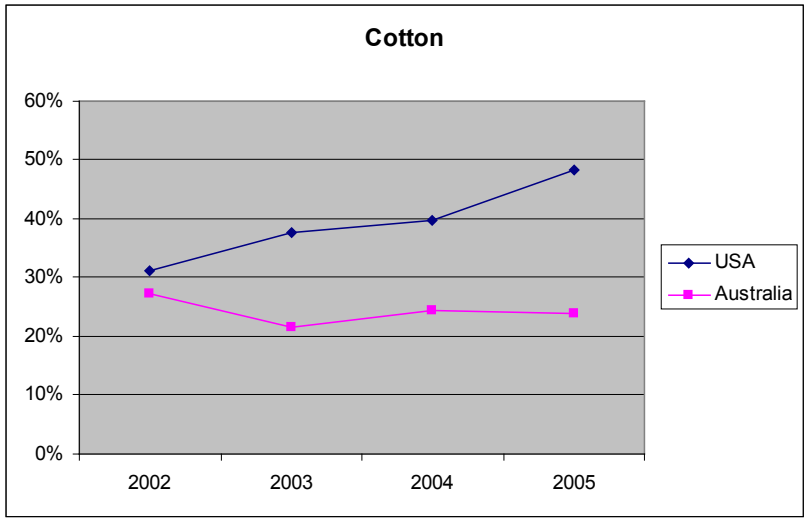
The FTA scenario shows that expanding only the Korean import access caused total U.S. exports to increase by much less than the full 200,000 tons even though the KORUS-FTA quota is specifically allocated to the United States. The 2.7 percent increase in U.S. exports of japonica rice is less than 12,000 tons. This means that the United States diverts exports from other markets to Korea to take advantage of potentially high prices and profits in the Korean market. It also implies that China and the exporters in the rest of the world expand to take advantage of the other markets that are made available by the diversion of the destination of U.S. exports. The basic issue is that California rice production cannot expand enough to meet the new quota in Korea and therefore rice must be diverted from the United States market or from existing export markets to supply the Korean import quota. The major benefit to California rice suppliers will be the relatively high price earned in the Korean market, which puts a premium on quality of the type that California is well situated to supply.

These simulation results represent the market effects due only to potential policy changes, holding all other conditions to their baseline projected values. These simulations indicate that modest increases in import access imply small declines in market price in Korea and small increases in world prices. Our results also indicate the dominant role that China plays in the relatively thin global market for japonica rice and that even results of a Korea-U.S. FTA are strongly affected by the availability of supply from China.

Figures 4. Import Shares of the United States and Major Import Competitors in the Korean Market, 2002 -2005 (continued)







Source: Korea Agricultural Trade Information (http://www.kati.net).

closing remarks

This report has shown that there is a substantial potential to expand export to Korea for many California agricultural commodities. Lower trade barriers would allow California agriculture access to compete in a large, growing and lucrative market. Commodity prices are high in Korea and consumers are willing to pay premiums for high quality products of the type produced in California. Thus, with free trade, California agriculture should be in an excellent position to compete on both price and quality.

Agriculture is already a major item on the agenda and the specific outcome of the negotiations matter. Because of concerns expressed by Korean agriculture, there are efforts to negotiate a less than comprehensive agreement and to delay market opening for many products of interest to California agriculture. For California agriculture, gains are larger if the agreement is comprehensive and barriers are reduced and removed sooner.

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appendix tables

Table A1. Detailed Tariff Schedule MFN tariff rates

Commodity	HS code	UR tariff (starting)	UR tariff (2004)	Tariff for within quota quantity
Fruits and vegetables				
Oranges (fresh)				
	0805.10.0000	99	50	50
Oranges (juice)				
	2009.11.0000	60	54	-
	2009.12.0000	60	54	-
	2009.19.0000	60	54	-
	2106.90.4800			
	2202.90.3400			
Lemons				
	0805.50.1000	50	30	
	2009.31.1000	71	54	
	2009.39.1000	71	54	
	3301.13.0000	20	13	
Table grapes				
	0806.10.0000	50	45	
Grapes (juice)				
	2009.60.0020			
	2009.61.0000	50	45	
	2009.69.0000	50	45	
Cherries				
	0809.20.0000	40	24	
	0811.90.6040			
	0812.10.0000	59.2	45	
	2008.60.0000	59.2	45	
Strawberries				
	0810100000	50	45	
	0811100000	80	72	
	0812200000			
	0812901000	50	32.8	
	2009801020			
	2008800000	50	45	
Tomatoes (processed)				
	2002.10.0000	50	45	
	2002.90.1000	35	31.5	
	2002.90.9000	50	45	
	2009.50.0000	71	54	
	2103.20.1000	60	54	
	2103.20.2000	60	54	
Raisins				
	0806.20.0000	50	21	
Olives				
	0711.20.0000	30	27	
	1509.10.0000	30	27	
	1509.90.0000	30	27	
	1510.00.0000	30	27	
	2005.70.0000	35	22.9	

Apples				
	0808100000	50	45	
	0813300000	50	45	
	2009700000			
	2009710000	50	45	
	2009790000	50	45	
	2008992000	59.2	45	
Pineapples				
	0804300000	50	45	
	2009400000			
	2009410000	71	54	
	2009490000	71	54	
	2006002000	59.2	45	
	2008200000	50	45	
Bananas				
	0803000000	100	90	
Kiwis				
	0810.50.0000	50	45	
Grapefruits				
	0805.40.0000	50	30	
	2009.21.0000	60	30	
	2009.29.0000	60	30	
Lettuce				
	0705.11.0000	50	45	
	0705.19.0000	50	45	
Garlic				
	0703200000			
	0703201000	400	360	50
	0703209000	400	360	50
	0710802000	35.5	27	
	0711901000	400	360	50
	0712901000	400	360	50
	2001909060	40	36	
Red peppers				
	0709600000			
	0709601000	300	270	50
	0709609000	300	270	50
	0710807000			
	0904201000	30	19.7	
	0904202000	30	19.7	
Tree Nuts				
Almonds				
	0802.11.0000	50	45	
	0802.12.0000	50	21	
	2008.19.4000			
Walnuts				
	0802.31.0000	50	45	
	0802.32.0000	50	30	
Pistachios				
	0802.50.0000	59.2	45	
	2008.19.3020			
Livestock products				
Beef				
	0201.10.0000	44.5	40	-
	0201.20.0000	44.5	40	-
	0201.30.0000	44.5	40	-

	0202.10.0000	44.5	40	-
	0202.20.0000	44.5	40	-
	0202.30.0000	44.5	40	-
	0206.10.0000	20	18	
	0206.21.0000	23.7	18	
	0206.22.0000	23.7	18	
	0206.29.1000	20	18	
	0206.29.2000	20	18	
	0206.29.9000	20	18	
	0210.20.1000	30	27	
	0210.20.9000	30	27	
	0210.99.1010	29.6	22.5	
	1602.50.1000	80	72	-
	1602.50.9000	80	72	-
Hides and skins				
	4101.20.1000	20	5	
	4101.50.1011	10	5	
	4101.50.1012	10	5	
	4101.50.1013	10	5	
	4101.50.1014	10	5	
	4101.50.1019	10	5	
	4101.50.1021	10	5	
	4101.50.1022	10	5	
	4101.50.1023	10	5	
	4101.50.1024	10	5	
	4101.50.1029	10	5	
	4101.50.1090	10	5	
	4101.90.1011	20	5	
	4101.90.1019	10	5	
	4101.90.1091	20	5	
	4101.90.1099	10	5	
Dairy products				
Skim milk powder				
	0402.10.1010	220	176	20
	0402.10.1090	220	176	20
	0402.10.9000	220	176	20
Whole milk powder				
	0402.21.1000	220	176	40
	0402.21.9000	220	176	40
	0402.29.0000	220	176	40
Butter				
	0405.10.0000	99	89	40
	0405.20.0000	60	54	
	0405.90.0000	99	89	40
Whey				
	0404.10.1010	99	49.5	20
	0404.10.1090	99	49.5	20
	0404.10.2110	99	49.5	20
	0404.10.2120	99	49.5	20
	0404.10.2130	99	49.5	20
	0404.10.2190	99	49.5	20
	0404.10.2900	99	49.5	20
	0404.90.0000	47.4	36	
Cheese				
	0406.10.1000	40	36	
	0406.10.2000	47.4	36	

	0406.20.0000	40	36	
	0406.30.0000	40	36	
	0406.40.0000	40	36	
	0406.90.0000	40	36	
Formulated butter				
	2106.90.9020	60	54	
Mixed milk powder				
	0404.90.0000	47.4	36	
	1901.90.2000	40	36	
Infant formula				
	1901.10.1010	40	36	
	1901.10.1090	71	54	
Casein				
	3501.10.0000	25	22.5	
	3501.90.1000	25	22.5	
	3501.90.2000	25	22.5	
Others				
Rice				
	1006.10.0000	-	-	5
	1006.20.1000	-	-	5
	1006.20.2000	-	-	5
	1006.30.1000	-	-	5
	1006.30.2000	-	-	5
	1006.40.0000	-	-	5
	1102.30.0000	-	-	5
	1103.19.3000	-	-	5
	1103.20.2000	-	-	5
	1104.19.1000	-	-	5
	1104.30.1000	23.7	18	
Wine				
	2204.10.0000	118.4	30	
	2204.21.1000	100	30	
	2204.21.2000	100	30	
	2204.21.9000	100	30	
	2204.29.1000	100	30	
	2204.29.2000	100	30	
	2204.29.9000	100	30	
	2204.30.0000	100	30	
	2205.10.0000	100	30	
	2205.90.0000	100	30	
	2208.20.1000	100	30	
	2208.20.9000	100	30	
Cotton				
	5201.00.1000	10	2	
	5201.00.9000			
	5201.00.2030			
Hay				
	1209.21.0000	0	0	
	1214.10.0000	20	10	
	1214.90.1000	111.7	100.5	5
	1214.90.9010	20	18	
	1214.90.9090	111.7	100.5	5
Flowers				
	0601.10.1000	30	27	
	0601.10.2000	30	27	

0601.10.3000	30	27	
0601.10.4000	30	27	
0601.10.5000	30	27	
0601.10.6000	30	27	
0601.10.7000	30	27	
0601.10.8000	30	27	
0601.10.9000	30	27	
0601.20.1000	30	27	
0601.20.2000	30	27	
0601.20.3000	30	27	
0601.20.4000	30	27	
0601.20.5000	30	27	
0601.20.6000	20	18	
0601.20.7000	30	27	
0601.20.8000	30	27	
0601.20.9010	30	27	
0601.20.9090	30	27	
0602.10.1000	20	13.1	
0602.10.9000	20	13.1	
0602.20.1000	20	18	8
0602.20.2000	20	18	8
0602.20.3000	20	18	8
0602.20.4000	20	13.1	
0602.20.5000	20	13.1	
0602.20.6000	20	18	8
0602.20.7010	20	13.1	
0602.20.7020	20	13.1	
0602.20.7030	20	13.1	
0602.20.9000	20	13.1	
0602.30.0000	20	13.1	
0602.40.0000	30	27	
0602.90.1010	30	27	
0602.90.1020	20	18	
0602.90.1030	20	18	
0602.90.1040	20	18	
0602.90.1050	20	18	
0602.90.1060	20	18	
0602.90.1090	30	27	
0602.90.2011	20	13.1	
0602.90.2019	20	13.1	
0602.90.2020	20	13.1	
0602.90.2030	20	13.1	
0602.90.2040	20	13.1	
0602.90.2050	20	13.1	
0602.90.2061	20	13.1	
0602.90.2069	20	13.1	
0602.90.2071	20	13.1	
0602.90.2079	20	13.1	
0602.90.2081	20	13.1	
0602.90.2089	20	13.1	
0602.90.2091	20	13.1	
0602.90.2099	20	13.1	
0602.90.9010	20	13.1	
0602.90.9020	20	13.1	
0602.90.9030	20	18	8
0602.90.9040	20	18	

0602.90.9090	20	13.1
0603.10.1000	40	36
0603.10.2000	40	36
0603.10.3000	40	36
0603.10.4000	40	36
0603.10.5000	40	36
0603.10.6000	40	36
0603.10.7000	40	36
0603.10.8000	40	36
0603.10.9000	40	36
0603.90.0000	40	36
0604.10.0000	20	13.1
0604.91.1010	20	13.1
0604.91.1090	20	13.1
0604.91.9000	20	13.1
0604.99.0000	20	13.1

Source: KREI

Table A2. Preferential tariff rates for Chile under the FTA

Commodity	HS code	Basic tariff	Preferential tariff (FTA with Chile)															tariff reduction
			05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	
Fruits and vegetables																		
Oranges (fresh)																		
Oranges (juice)																		
		55	49.6							9.9	5.0	0	0	0	0	0	0	10
Lemons																		
		32	29.1						8.7	5.8	2.9	0	0	0	0	0	0	10
		50	45.5							9.1	4.6	0	0	0	0	0	0	10
		50	45.5							9.1	4.6	0	0	0	0	0	0	10
		5	4.2	3.3	2.5	1.7	0.8	0	0	0	0	0	0	0	0	0	0	5
Table grapes																		
		46	41.4							8.3	4.1	0	0	0	0	0	0	10(Nov~Apr)
Grapes (juice)																		
		46	39.8					5.7	0	0	0	0	0	0	0	0	0	7
		46	39.8					5.7	0	0	0	0	0	0	0	0	0	7
Cherries																		
		26	23.3					9.3	7.0	4.7	2.3	0	0	0	0	0	0	10
		30	27.3						8.2	5.5	2.7	0	0	0	0	0	0	10
Strawberries																		
		30	27.3						8.2	5.5	2.7	0	0	0	0	0	0	10
		50	43.8					6.3	0	0	0	0	0	0	0	0	0	7
		46	45.5														0	16
Tomatoes (processed)																		
		8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	5
		5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		8	7.3	6.5	5.8	5.1	4.4	3.6	2.9	2.2	1.5	0.7	0	0	0	0	0	10
		30	27.3							8.2	5.5	2.7	0	0	0	0	0	10
		8	7.3	6.5	5.8	5.1	4.4	3.6	2.9	2.2	1.5	0.7	0	0	0	0	0	10
																		10
Raisins																		
		22	20.4						8.2	6.1	4.1	2.0	0	0	0	0	0	10
Olives																		
		27	22.7			9.1	4.6	0	0	0	0	0	0	0	0	0	0	5
		8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	5
		8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	5
		8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	5
		20	16.7			6.7	3.3	0	0	0	0	0	0	0	0	0	0	5
Apples																		
		46	41.4							8.3	4.1	0	0	0	0	0	0	10
		46	41.4							8.3	4.1	0	0	0	0	0	0	10
		46	41.4							8.3	4.1	0	0	0	0	0	0	10
		46	42.2							8.4	4.2	0	0	0	0	0	0	10
Pineapples																		
Bananas																		
Kiwis																		
		46	41.4							8.3	4.1	0	0	0	0	0	0	10
Grapefruits																		
Lettuce																		
		46	37.9				7.6	0	0	0	0	0	0	0	0	0	0	5
Garlic																		
Red peppers																		
Nuts																		
Almonds																		
		8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	5

	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
Walnuts																			
	46	39.8						5.7	0	0	0	0	0	0	0	0	0	0	7
	32	28.0					8.0	4.0	0	0	0	0	0	0	0	0	0	0	7
Pistachios																			
Meats																			
Beef																			
	18	16.5				9.9	8.3	6.6	5.0	3.3	1.7	0	0	0	0	0	0	0	10
	19	15.5		9.3	6.2	3.1	0	0	0	0	0	0	0	0	0	0	0	0	5
	19	16.9					8.5	6.8	5.1	3.4	1.7	0	0	0	0	0	0	0	10
	18	15.2		9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	18	15.2		9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	18	15.2		9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	23	21.1						8.4	6.3	4.2	2.1	0	0	0	0	0	0	0	10
Hides and skins																			
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dairy products																			
Skim milk powder																			
Whole milk powder																			
Butter																			
Whey																			
Cheese																			
	36	33.1							9.9	6.6	3.3	0	0	0	0	0	0	0	10
Formulated butter																			
	8	7.3	6.5	5.8	5.1	4.4	3.6	2.9	2.2	1.5	0.7	0	0	0	0	0	0	0	10
Mixed milk powder																			
Infant formula																			
	36	36.4																0	16
	40	36.4								7.3	3.6	0	0	0	0	0	0	0	10
Casein																			
	20	18.2					9.1	7.3	5.5	3.6	1.8	0	0	0	0	0	0	0	10
	20	18.2					9.1	7.3	5.5	3.6	1.8	0	0	0	0	0	0	0	10
	20	18.2					9.1	7.3	5.5	3.6	1.8	0	0	0	0	0	0	0	10
Others																			
Rice																			
Wine																			
	15	12.5		7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	15	12.5		7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	15	12.5		7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	15	12.5		7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	15	12.5		7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	15	12.5		7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	15	12.5		7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	30	27.3							8.2	5.5	2.7	0	0	0	0	0	0	0	10
	15	12.5		7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	15	12.5		7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	15	12.5		7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
Cotton																			

	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hay																			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.8	0.7	0.5	0.3	0.2	0	0	0	0	0	0	0	0	0	0	0	0	5
	1	0.8	0.7	0.5	0.3	0.2	0	0	0	0	0	0	0	0	0	0	0	0	5
Flowers																			
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	18	15.2		9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	18	15.2		9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	18	15.2		9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	18	15.2		9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5

8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
18	15.2		9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
25	22.7						9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
25	22.7						9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
25	20.8			8.3	4.2	0	0	0	0	0	0	0	0	0	0	0	0	5
25	20.8			8.3	4.2	0	0	0	0	0	0	0	0	0	0	0	0	5
25	22.7						9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
25	22.7						9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
25	20.8			8.3	4.2	0	0	0	0	0	0	0	0	0	0	0	0	5
25	20.8			8.3	4.2	0	0	0	0	0	0	0	0	0	0	0	0	5
25	22.7						9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
25	22.7						9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
8	7.3	6.5	5.8	5.1	4.4	3.6	2.9	2.2	1.5	0.7	0	0	0	0	0	0	0	10
8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5

Source: KREI

THE PROSPECTIVE FREE TRADE AGREEMENT WITH KOREA: BACKGROUND, ANALYSIS AND PERSPECTIVES FOR CALIFORNIA AGRICULTURE

A Report prepared for the California Farm Bureau Federation

Hyunok Lee and Daniel A. Sumner

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